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Safety Council Pulp and Paper Section Meets

Prevention of Serious Accidents Thoroughly Discussed At National Convention Held In Washington, D. C.—J. J. Plzak, of Consolidated Water Power & Paper Co., Re-Elected General Chairman—R. J. Knutson, of Wisconsin Industrial Commission, Praises Industrial Safety Work—George J. Adams Addresses Gathering

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 12, 1932.—J. J. Plzak, of the Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis., was re-elected general chairman of the Paper and Pulp Section of the National Safety Council which held its annual convention here last week. Other officers elected for the coming year include:

Vice-Chairman, Art Murray, Container Corporation of America, Chicago; H. G. Gilson, Oxford Paper Company, Rumford, Maine; W. H. Brydges, the American Pulp and Paper Mill, Superintendent's Association, Bedford Pulp and Paper Company, Big Island, Va.

Secretary, H. D. Bents, Hoberg Paper and Fibre Company, Green Bay, Wis.

Chairman Poster Committee, James M. McGivney, Brown Company, Berlin, N. H.

Chairman Program Committee, F. H. Rosebush, Nekoosa Edwards Paper Company, Port Edwards, Wis.

Chairman Membership Committee, F. N. Bartlett, Hollingsworth and Vose Company, Boston, Mass.

Chairman Statistics Committee, E. E. Grant, the Crystal Tissue Company, Middletown, Ohio.

Chairman Engineering Committee, George J. Adams, International Paper Company, New York City.

Chairman Health Committee, Dr. L. H. Frechtling, the Champion Coated Paper Company, Hamilton, Ohio.

News-Letter Editor and Publicity Committee Chairman, A. E. Winslow, Hollingsworth and Whitney Company, Waterville, Maine.

Chairman Contest Committee, A. Scott Dowd, the *Paper Industry*, Chicago.

Members Executive Committee at Large, W. J. Brennan, State Department of Labor and Industry, Augusta, Me.; K. L. Faist, the Champion Coated Paper Company, Hamilton, Ohio; W. J. Peacock, Northern Paper Mills, Green Bay, Wis.; John Lundrigan, International Paper Company, New York City; W. A. Gleason, Hammermill Paper Company, Erie, Pa.; Samuel Pruyn, Finch-Pruyn & Co., Inc., Glenn Falls, N. Y.; Ben D. Rogers, Bird & Son, East Walpole, Mass.; E. R. Brown, manager, Oregon and Columbia Basen Division, N. S. C., Portland, Ore.

Industrial Safety Discussed

R. J. Knutson, member of the Wisconsin Industrial Commission, praised the work which has been done in the field of industrial safety but said a deplorable situation which is "truly a national disgrace" is found in the field of non-industrial safety.

He urged the participation of industry in community safety activities because "it is a part of the whole social fabric and that therefore it does have a community responsibility." It should be interested from the standpoint of taxpayers, the effort upon labor turnover and absenteeism and as an aid to industrial safety.

George J. Adams, general superintendent of the International Paper Company, chairman of a special committee which made a study of the "Hazards of Inrunning Nips," spoke on that subject before the Paper Section, in which he stated that "nearly a fourth of all the accidents which occur in the paper manufacturing industry take place in or around the high speed multiple unit paper machines.

"These accidents," he continued, "are usually serious, resulting in permanent or partial permanent disability, for the reason that the 'nips' as they are called, usually mean loss of fingers, smashed hands and arms, or worse. The result is a great deal of suffering and loss of time which piles up compensation and medical costs."

Better Safety Recommendations

The report dealt with guards and mechanical devices and safe operating practices recommended to prevent accidents at inrunning nips on paper machines. Definite information concerning guards and devices that have been worked out successfully by 200 member companies of the Section was given by Mr. Adams. More than thirty definite recommendations for better safety through mechanical appliances of one kind or another were set forth in the report and members were urged to adopt these contrivances in so far as they are applicable to the particular types of machines in use by the various companies.

Mr. Adams laid stress on the educational side of the problem, stating that while adequate guards were necessary it is probably more to be desired that safe operating practices be followed by employees.

"We are creatures of habits by nature in everything we do," he said, "therefore, if we can influence our employees to form the habits of safe practices we will prevent many accidents. To say that the dangers of a paper machine

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Paper Trade Outlook Improves In Philadelphia

More Than Seasonal Increase Experienced In Demand for Various Standard Grades of Fine Paper—Some Improvement Noticed In Coarse Paper Section, With Kraft Wrapping Paper Quotations Becoming Somewhat Steadier

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., October 10, 1932.—The most comprehensive but as well the most succinct commentary on conditions as they exist not only in the local Philadelphia paper trade but in all the other industries with which it is so intimately connected, lies in the fact that more and more audibly the depression is being spoken of in the past tense, and recovery less vigorously, however, in the present tense and most emphatically in the future tense. It is, of course a fact that to some extent the wish is father to the thought. It is furthermore also a fact that the customary and recurrent seasonal improvement is an element in the situation. But unmistakably there is embodied in the present-day conditions a very distinct even though yet not a very large improvement in buying with all the ear-marks of a condition of permanent betterment. There are very substantial reasons for this better tone of the market. So far as the most depressed and almost demoralized portion of the trade—the coarse paper business—is concerned, the great factor has been the return of activity in quite a number of cases in this great Workshop.

Outstanding is the very marked and decided betterment in the great textile industries, the leading industrial enterprise in the great northeastern section of Philadelphia. Mills which have been tightly shut up for many months, even a year or two, have been and are being reopened and there are not a few which are operating on an over-time basis. The textile demand for kraft and other papers is by no means an inappreciable item in consumption. These textile consumers, of course, had to go immediately into the market, and their re-appearance after the absence, in some cases, of years, has been noticeable. But what maintains in the textile trade is true in lesser degree in the leather and some other essential Philadelphia industries. Evidence that this betterment is not purely local is found in the fact that representatives from mills which are producing kraft and many lines of coarse papers, have notified the trade that quotations are valid for the present only and that there is every likelihood of an actual advance—certainly of a stiffening of prices in the very near future. There continues, however, demoralization in the tissue situation because Japanese offerings of as low as $2.00 a case f.o.b. seaboard are being made. There are those in the trade who believe that some concerted effort to interest the Tariff Commission in the situation should be made.

Fine Paper Improvement Seasonal

So far as fine papers are concerned, particularly the general class of printing papers, improvement in sales has been more than seasonal. Printers no longer emphasize the paucity of orders, although, of course, these are not plentiful. They do, however, stress the great difficulty in collections. There is still, under these conditions, much hand to mouth buying, because none of the printers have carried any amount of stock, and the result is that almost simultaneously with taking of orders, the paper houses feel the effect. Here, too, prices show some evidence of becoming a little firm but actual advances are still only in the offing. 'Though on the surface little actual attainment has resulted from the recent movement, designed to improve the hitherto very deplorable situation in the general wrapping paper market in this territory, all who have become interested to the point of participation are full of confidence that accomplishment is very near at hand.

Work of the Planning Committee

The Planning Committee, whose personnel was reported in these columns recently, has been continuously at work, with the result that immediately after the National Paper Trade Association Convention concludes, a meeting is to be held and permanent organization probably effected. The thought is to have Arthur Chamberlain act as organizing chairman, and his presence in the city after the convention is anticipated. As previously reported, the purpose of the proposed organization is to effect a better understanding and fellowship in the wrapping paper trade.

Paper Trade Bowling League Resumed

An organization, not of direct trade import, but none the less important because its purpose is to achieve that better fellowship, so essential in any trade, has now been perfected—The Paper Trade Bowling League. Games have been resumed with eight teams active. Some differences of opinion had arisen regarding the placing of rendezvous, many believing that the old time Casino Alleys should be continued because of pleasant traditions, others favoring a new location in the Hudson Alleys. The result has been that the Garrett Buchanan team has withdrawn, at least for the time being, and the D. L. Ward Company green team has been dissolved. In place of the Ward green team, a team from E. J. Spangler Company, envelope makers, has been substituted, and a new team—The Riegert Rulers—has been added.

Waste Paper Dealers to Meet

It is cheerful to report also that after a half year or more of somnolence, The Waste Paper Merchants' Association is to resume activities. Secretary McGarrity will shortly issue a call for a dinner meeting to be held at the Hotel Lorraine, the outcome of which it is just possible may be a decision to hold a larger get-together session, if not a dinner, a banquet, on the old-time scale, in the near future.

Death of Genevieve Carr

The PAPER TRADE JOURNAL regrets sincerely to announce the sudden and tragic death of its Philadelphia correspondent, Genevieve Carr. Miss Carr came into the service of the JOURNAL more than a decade ago after a very thorough training in the newspaper field and an exceptionally wide acquaintance in the civic and industrial life of Philadelphia. Charm and personality, ability to make friends and to hold them, thoroughness and accuracy in her reportorial work were qualities which commended themselves alike to the JOURNAL and to those in the trade with whom she so frequently came in contact.

Her passing will be regretted by all who knew her. Miss Carr was on her way by automobile to her native city of Bath, New York, to visit an estate recently inherited by her. Just outside of Harrisburg, through a head-on collision, she sustained the fatal injuries which terminated a useful career. Miss Carr was under treatment for a week

in the Harrisburg Polyclinic Hospital, but never regained consciousness, and passed away in peace. Interment was made in her native city of Bath, New York.

News of the Trade

An announcement of particular interest to the paper trade, but of greater interest to the allied paper box trade, comes from the Garrett-Buchanan Company. It has just opened a paper box department, which carries a complete line of paper box papers and box makers' supplies. It will be under the management of Joseph F. Maertz, formerly with the A. S. Datz & Son. Mr. Maertz has specialized in the paper box trade for many years and is necessarily very widely known.

The Thomas W. Price Company has just added, under its own trade-mark, a line of Berkley Ledger, a medium priced product made in white and buff.

The Satterthwaite-Cobaugh Company, 217 Chestnut street, has added to its line a new bond in the medium price class, made by the Parsons Paper Company, and carried in white and five colors.

Thomas R. Fort, head of the Thomas W. Price Company, who has been sick for a long time, is reported by his son as making progress towards recovery.

Representative Clark of the White-Washburn Company, Hinsdale, N. H., was a recent visitor to the Trade.

The Paper Trade Association, on October 12, and in The Bourse, will hold an informal meeting for the purpose of discussing conditions generally for the cultivation of good fellowship.

Estate of Charles W. Shartle

DAYTON, Ohio, October 10, 1932.—The will of Charles W. Shartle, late paper manufacturer who died suddenly when on a trip in Wisconsin, was admitted to probate in the court of Judge William C. Wiseman, Dayton, this week and revealed an estate valued at $230,500.

Mr. Shartle at the time of his demise was president of the Brown-Bridge Mills Company, Troy, Ohio, although the active duties of this post had been transferred to his son.

For many years he had been in the machinery-manufacturing business in Middletown where he became known throughout the paper trade. After disposing of his interest in that enterprise, he started the gummed paper industry in Troy. He had always retained his residence in the Miami Valley, having lived in a large country place near Franklin.

Mr. Shartle's will discloses that of his estate, $200,000 is in personal property; $29,300 in real estate and $1200 in annual rentals.

All of the personal property is bequeathed to the widow, Helen Sharkey, who also receives a bequest of $30,000.

A fund of $10,000 is set aside for the education of a son, Donald.

After the bequests are taken out, one-seventh of the estate is set up as a trust over which the First National Bank of Cincinnati is named to administer, the proceeds being for the eventual benefit of the seven children of the testator: C. W. Shartle, Jr., Luch Christine Stormes, Welthea Jane Gill, Ima Louise Sebold, John Adam Shartle, Thomas Howes Shartle and Donald K. Shartle.

Paper Rate Complaint Filed

WASHINGTON, D. C., October 12, 1932—Complaint has been filed with the Interstate Commerce Commission by the Raymond Bag Company of Middletown, Ohio, against the Atchison, Topeka & Santa Fe Railway against the rate on paper and paper articles from Middletown to points in Iowa, Missouri, Nebraska and Kansas.

Paper Mill Superintendents Meet

PHILADELPHIA, Pa., October 11, 1932.—The Pennsylvania, New York Division, the American Pulp and Paper Mill Superintendents' Association, held a very successful and quite largely attended business and social meeting at the Benjamin Franklin Hotel, Saturday morning and afternoon, with an enjoyable banquet closing the gathering on Saturday evening. Registration opened on Friday evening and at that time and until noon on Saturday, fifty-nine enrolled. Saturday morning's session was called to order by Chairman C. H. Kephart, of the York Haven Paper Company, York Haven, Pa., and at this session papers were read by E. C. Gildenzoph, superintendent of Schmidt & Ault Paper Company, whose topic was "Practical Pulp and Paper Making"; by C. E. Ellis, vice-president, the Downingtown Manufacturing Company, on "How Can We Speed Up the Board Machine?"

The election of officers resulted in the promotion of those now serving with one new name to be honored. They were as follows: J. Linville Mullin, the Jessup & Moore Paper Co., Wilmington, Del., chairman; H. C. Busser, the York Haven Paper Company, York Haven, was re-elected as secretary and treasurer; S. M. Hesser, Hinde & Dauch Paper Company, Gloucester, N. J., 1st vice chairman; J. W. Gregor, the Jessup & Moore Paper Company, Elkton, Md., 2nd vice chairman; Fred Fielding, Diamond Mill, New Jersey, 3d vice chairman.

After luncheon in the Crystal Room the stated program for the afternoon session was carried out. The topics were "Hydraulic Variable Speed Drive for Paper Mills," by D. R. Francis, general manager, the Waterbury Tool Company, Waterbury, Conn.; "Paper Drying and Steam Plant Economics," by F. C. Farnsworth, president, Farnsworth Company, "The Question Box," by J. Linville Mullin, the Jessup & Moore Paper Company.

In the evening a banquet was held in the Ball Room, with James Garfield Ramsey as toastmaster, and J. E. Blooser as guest of honor. Sociability was promoted and musical entertainment was furnished by Fred Hartman and his Mello-Demons, and music and singing was under direction of V. K. Sanderson and daughter. A real surprise was sprung by the presentation of "Sir" Frederick McGill; he was taken at his full value as an Englishman of title, journeying through the country until there was first revealed the fact that he was an entertainment impersonator, who kept the audience in guffaws until the conclusion of his address.

The Convention was in charge of the Committee on Arrangements: S. M. Hesser, Hinde & Dauche Paper Company, Gloucester, N. J.; F. E. Winslow, General Electric Company, Philadelphia, Pa., and Carl Schmidt, DuPont Company, Philadelphia, Pa.

Esparto Book Paper Test

WASHINGTON, D. C., October 12, 1932—An English esparto book paper recently tested by the Paper Laboratory of the Bureau of Standards was found to compare favorably in permanence characteristics with the ordinary book papers made from wood fibers. The fiber purity was quite good; the alpha cellulose was 81 per cent and the copper number 1.7. It retained 40 per cent of its folding endurance when subjected to the heat test. The esparto fiber book papers are manufactured and used extensively in England, where there is considerable controversy over their permanence as compared with that of the wood fiber book papers. Esparto is a grass fiber. The paper was secured through the assistance of the British Library Association, and was said to be representative of the average quality of such paper.

Ontario Paper Manufacturers Fairly Active

Demand for Various Standard Grades of Fine Paper Well Sustained, With Quotations Holding to Schedule—Coarse Paper Market Continues Listless — Envelope Plants Busier Than for Some Time Past—Box Board Business Irregular

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., October 10, 1932—It would appear as if in both the wholesale and mill sections of the paper trade in Ontario the fine paper market is keeping up well, both in respect to demand and price, while specialty lines are lagging and the coarse paper market is dull. Included in the specialty group are waxing and glassine papers and grease proof, which are in very light demand. Tissues and toilets, while in indifferent call, are slightly better than other specialty lines, and the mills manufacturing them are able to dispose of enough tonnage to keep the plants running fairly close to capacity. Some dumping of foreign tissues has been experienced by the manufacturers but this has not been so pernicious of late owing to the fact that the Canadian mills are now equipped to meet any outside competition that might turn up. While there is still a tendency on the part of the buyer of paper to select the cheaper grades of fine papers the better grades are gradually coming back to their own and it would appear as if a movement were setting in to disregard the cheaper qualities of such lines as book, writing, bonds and ledgers, and replace these orders with purchases of the better grade stock.

Quite a fair demand for envelope paper has set in and the envelope plants are more active than they have been for some time. This is taken as a sign of renewed business activities in many commercial houses throughout the province and there is a conviction in most quarters that the business tide has started to flow. It is, however, about the only section of the paper converting trade that has shown any marked improvement of late. Manufactured stationery lines are decidedly dull and the same may be said of the paperbox industry which has not been showing the pre-Christmas activity which is its due at this season of the year. This, in turn, has affected the box board business in which mills are not operating at more than forty or fifty per cent, in most cases, although there are one or two board firms who are operating at a much better ratio than that.

Provincial Paper on Sound Basis

Although Abitibi Power and Paper Company is now operating under a receivership, its subsidiary, Provincial Paper, Ltd., is believed to have maintained a strong financial set up and to have maintained operations which are permitting its bond interest to be earned and possibly the preferred as well. Latest reports from the head office in Toronto are that even in the fine paper of the industry there has been some reduction in business, but on the whole the company's operations have stood up quite well. Provincial Paper is a manufacturer and distributor of high grade book, bond, coated and writing papers. It has five plants, two located at Georgetown, Ont., and one at Thorold, Mille Roches and Port Arthur. The total capacity of all the plants is 190 tons a day. The company also has under lease 2,500 square miles of timber limits north of Lake Superior.

Don Valley Outlook Promising

Don Valley Paper Company, Toronto, during the past year added manufacture of blotting paper to its lines of cover paper, Bristol boards, tags and colored specialties. The company in the past five years has made good progress in manufacturing and sales and the reported outlook continues promising. As far as the new line is concerned company officials report that considerable success has been recorded. Considerable tonnage of blotting paper has been sold in two grades and in different weights and colors. The new business is expected to add materially to the company's sales, which in 1932 have been a little ahead of those in 1931 and profits have been maintained, although there have been no changes in the reduced prices made effective a year ago. Dividends on preferred stock outstanding were earned, but will not be paid as the company, according to President Norman E. Wainright, feels that the better course is to turn the money back into plant. The policy of improving plant and assuring more efficient production has been continued.

Ontario Paper Developing Power

Affairs of the Ontario Paper Company at Thorold, Ont., are believed to be moving satisfactorily. Controlled by the *Chicago Tribune* interests, its entire output is marketed through one or two outlets. The plant operated by the company is one of the largest privately-owned pulp and paper units operating in Canada. It has a maximum output of about 97,000 tons of news print and 3,000 tons of wrapping per annum. It is likely that actual production is somewhat below this figure in view of the lessened demand for news print. Several months ago the company started a development program on the Outardea River in Quebec province, where a power plant of 40,000 h.p. capacity has been established. It is proposed to use this power for a new mill at English Bay, about twenty-five miles from the power plant site. Here, when conditions allow the completion of the development, it is proposed to erect a modern plant capable of turning out 300 tons of sulphite and ground wood pulp per day. This output will be shipped by the company's own boats to Thorold, Ont., for further processing into news print.

Bathurst Paper Output Is Down

Current operations of the Bathurst Power and Paper Company are on a limited basis, production amounting only to a few tons per day. Operations are continued largely in order to hold present business connections, such as supplying publishers in the Maritime Provinces and catering to a small export demand. One of the principal outlets for the company's products was eliminated lately through suspension of a publication by the *New York Graphic*. At present contracts call for delivery of about 500 tons of news print a month to the United States, but not all of this amount is being taken owing to the smaller needs of the publishers. The wood pile is being steadily converted into paper and the net income from sales is being invested by the management in high grade investment securities. Cash liquid assets are substantially in excess of current liabilities and the company has no bank loans.

Notes and Jottings of the Trade

A visitor to Toronto a few days ago was P. E. Kellett, manager and treasurer of Bulman Bros., Ltd., extensive printers and paper dealers in Winnipeg, Man.

J. H. Black, president of the Toronto Board of Trade and former head of the Spruce Falls Pulp and Paper Company, has returned to Toronto after a seven-weeks visit in the British Isles. Mr. and Mrs. Black flew over to France to visit the battle fields, while in England, and reports that there are great opportunities for Canadian trade in the Old Country as a result of the Ottawa Empire conference.

According to reports from the head office in Toronto of the Interlake Tissue Mills, Ltd., with mill at Thorold, Ont., the company has been able to carry on its business so far this year on a profitable basis. The company produces paper specialties such as napkins, towels, decorative crepes and other high grade products, the demand for which remains fairly constant from year to year and is not subject to the extravagant competition which has prevailed in other branches of the paper industry.

Don Valley Paper Mills, Toronto, have sent out samples of their new line of Valedon fancy box covers for which Canada Paper Wholesale, Ltd., are the sole distributors.

British Columbia Mills More Active

[FROM OUR REGULAR CORRESPONDENT]

VANCOUVER, B. C., October 10, 1932.—The Woodfibre plant of the British Columbia Pulp and Paper Company has resumed operation according to Lawrence Killam, president of the company. The plant is operating to build up stock, and no definite decision has been made as to how long it will continue to operate, Mr. Killam stating it would depend entirely on market conditions.

Operations of Pacific Mills, Ltd., at Ocean Falls, B. C. are now maintained on a five day week basis, the output being mainly shipped to the Orient, New Zealand, and Australia.

The Port Alice plant of the British Columbia Pulp and Paper Company is shut down for the time being.

A fibre box manufacturing plant is now being erected as an addition to the paper converting unit of Pacific Mills, Ltd., in Vancouver, and it is expected this will begin production by December 1.

The Westminster Paper Company, New Westminster, B. C., anticipates an improvement in business in the paper converting line and is enlarging its sales organization and working full time.

Champion Coated Gets Good Order

DAYTON, Ohio, October 3, 1932—Another substantial order has been received locally by the Champion Coated Paper Company from the Richman Brothers Company, clothing manufacturer of Cleveland, who conduct large stores in that city, Dayton, Hamilton and other cities.

The order is for two car loads of coated paper and the fact that mills from all sections of the country competed for it, speaks well for the Miami Valley concern. Special pride was taken in the fact that order remained in Hamilton by the managers of the store in that city.

"We selected the Champion Coated Paper Company for several reasons," said Nathan G. Richman, head of the Richman Brothers Company, one of the largest clothing manufacturing concerns in the country and probably the largest manufacturing and selling its own products in the world. "From many papers submitted to us we compared all and found the Champion to be the finest paper for the money that's made in the United States, for our purposes.

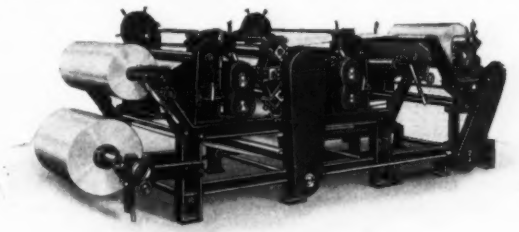
"We are pleased the business came to Hamilton because it means employment of Hamilton workers and helps everyone in the city, including out store."

New Machines for Combining and Pasting

Within recent months the packaging industry has been the source of an ever increasing demand for waterproof packages, that is, packages made waterproof by being lined inside by waterproof cellophane or else glassine which has been through a waterproofing process.

The cellophane or glassine is, of course, pasted to the board before the cartons are made and the Cameron Machine Company, known for years as specialists in the building of first class slitting and roll-winding equipment for paper and board mills, as well as converting plants, has enlarged the field of its activities to include the building of pasting or combining machines.

The experience gained in handling webs of various materials on roll-winding equipment has contributed much



NEW COMBINING AND PASTING MACHINE

to the design of this machine. In addition to obvious roll handling advantages, the machine provides for the use of hot or cold adhesives and for pasting two or three ply. The pasting rolls may be heated with circulating oil if necessary. The combining cylinder may be heated also. Means for accurate adjustment of the pasting rolls to get the maximum coverage for a given quantity of adhesive are also provided.

Cellophane and paper or board, glassine and paper or board, foil and paper or board, or cloth and paper or board are some of the materials handled by this machine.

The Cameron Machine Company has a machine of this type, 36 inches wide, set up and running and it offers to make experimental runs for any member of the industry with a laminating problem to solve. This is a free service which many manufacturers are glad to take advantage of.

Eastern Opens Cleveland Warehouse

The Eastern Manufacturing Company announces that a service warehouse has been opened in Cleveland to supply paper distributors in the mid-west territory with complete stocks of the Eastern and Orono lines. Cleveland was selected after a study of transportation facilities in the middle west, which, it is reported, showed that a larger number of distributors could be given prompt service by motor truck, as well as by railroad, than would be possible from other distributing points. In most cases over-night service is available, and even distant points will receive shipments in three days.

The announcement points out that the decision to provide this service was inaugurated in order to fill less than carload orders for mid-west distributors promptly and with a minimum of expense. Prices of paper shipped from Cleveland are quoted f.o.b. Cleveland, with mill prices applying on both Eastern and Orono lines. A number of mid-western distributors have already made use of this source of supply to complete their stocks.

This warehouse will be known as Eastern Manufacturing Company, Central Service Warehouse, and is located at 1927 East 19th Street, Cleveland.

Paper Merchants Hold Fall Meeting In Chicago

Approximately Two Hundred Members and Guests Attend Convention of National Paper Trade Association—Vital Business Problems Freely Discussed by Various Groups —Charles F. Abbott Warns Against Evils of Price Cutting

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., October 8, 1932—With Charles F. Abbott, executive director of the American Institute of Steel Construction, warning them that price cutting must end or industry will be wrecked the Fall Meeting of the National Paper Trade Association came to a close at noon, October 5, after an interesting and profitable three day session which got under way early Monday morning, October 3, at the Stevens Hotel, Chicago.

Mr. Abbott's address was one of the very few formal speeches made at the meeting, the paper executives preferring to confine themselves and their meetings to informal round table discussions concerning problems of paramount importance to the industry and all of its branches. The executive of the American Institute of Steel Construction did, however, really sound the keynote of the entire three day program in his talk on price cutting inasmuch as reports indicate that measures of market stabilization and business ethics were by far the most important topics of nearly all of the sessions. Mr. Abbott warned that the government may be forced to step in and take measures to prevent price cutting in competitive industries if the heads of the industries do not cease their present practices. He said that "there is only one way to make money in business. That way is to sell the product at a price that includes total cost plus a profit. Destructive competition during the past year has brought consumers to the point where they regard low price as the principal consideration in their purchases."

"Industry," he said, "must understand and accept the theory of stabilized production. It must recognize the folly of attempting to operate a plant on a basis of 100 per cent capacity output when statistics indicate a demand of but 50 per cent of plant capacity. It must recognize the spirit of live and let live, and overcome that degree of selfishness which induces others to enter into a war of price-cutting in an attempt to keep operating at like capacity. If we keep up this selfish, ignorant, mad rush for business at any old price, if we fail to advance commodity prices by constructive methods, industry as a whole will be wrecked and so will the government as well as the people." Mr. Abbott also pointed out the desirability of placing the management of industries in the hands of associations rather than in the hands of one individual.

Thus, Mr. Abbott in making his speech really talked "right down the alley" of those earnest paper executives who have long realized the urgent need of an elimination of ruthless price-cutting and his remarks, coming as they did at the close of the sessions, really served to summarize the debates and discussions of the entire session.

The formal program got under way when Jules Wolbrette, of the Southern Paper Company, Ltd., opened the meeting of the Survey Committee of the Wrapping Paper Division at 9:30 A.M. Monday, October 3. A bit later on, in a Bag Meeting, James S. Danehy, chairman of this activity, urged that paper be sold through regular paper jobbing and retail channels rather than through an indiscriminate list of other outlets.

The Credit Control Committee of the Wrapping Paper Division, with R. Gale Evans presiding, had an important session following the meetings of the executive and administrative committees of both Wrapping Paper and Fine Paper groups on Monday afternoon. Here the spirited round table discussion revealed an acute slow credit situation and comments supplied some worthwhile stop gaps to credit losses. On the morning of October 4, H. W. Newton presided over a group of kraft executives who discussed relation of merchandise costs to percentage mark-up schedule and later on went into the meeting and luncheon of the Middle States Wrapping Paper Association which, in turn, was followed by a general meeting, at which President J. F. Miller, of the Chope-Stevens Paper Company, Detroit, presided.

A report given by executive secretary Arthur H. Chamberlain, which was illustrative of the growth the National Paper Trade Association has made within the past year, was one of the high lights of the session. At 3:30 P.M., October 4, Vice President A. W. Leslie presided over a Fine Paper Division meeting which centered around a discussion of Fine Paper problems, including the momentous subject of stabilization and elimination of drastic price cutting principles.

The Western Paper Merchants Association held the spotlight in the evening with a dinner meeting at 6:00 P.M. Final sessions got under way at 9:30 A.M., October 5, with a meeting of the Wrapping Paper Division, Vice President S. L. Wellhouse presiding. It was at this meeting that Mr. Abbott gave his inspirational discussion of the dangers of price cutting which brought to a close the successful three day meeting. Attendance was close to the two hundred mark with representatives from the South and West particularly numerous. In addition to the display of the Institute on the third floor headquarters, the Crystal Tissue Company had an interesting display of holiday merchandise in room 1205, while the Dixie Cup Company also had an interesting exhibit. The Chicago Paper Association maintained headquarters in Room 1025 A at the Stevens.

Although not a part of the formal sessions, the golf tournament sponsored by the Middle West Division of the Salesmen's Association of the Paper Industry, held at the Olympia Fields Country Club on October 6, was a most popular event on the program. A perfect Fall day, a long list of prizes and the bait of good fellowship and good eats brought more than one hundred paper executives and salesmen out to Olympia Fields for an event which will be annual and national in every respect if the salesmen have their way.

Actively assisting A. H. Chamberlain in the smooth functioning program were a large number of Chicago paper executives, led by W. N. Gillett, Chicago Paper Company, member of the Advisory Council. The list also included L. S. Altholz, Inlander-Steindler Paper Company; W. E. Beier, Beier & Co.; D. F. Peck, Hanchett Paper Company; L. L. Levin, Levin Bros. Paper Company; J. D. H. Murphy, Commonwealth Paper Company; J. S. Danehy, Schwartz Paper Company; John T. Daily, Pilcher-Hamilton-Daily Company; R. S. Bull, Bradner Smith & Co., and D. W. Pratt, J. W. Butler Paper Company.

CENTRIFUGAL PULP SCREEN USES SLOTTED PLATES

Bird Development Puts Screening Operation on Entirely New Plane

Quality of pulp equal or superior to the finest produced by any screening system!

Cost-per-ton lower than any figures ever seen before!

Three times the capacity per foot of floor space.

Perfect flexibility for handling hard or slow cooks, etc.

That's part of the story; you'll find the rest of it in the new Bird Pulp Screen Bulletin. Write for it—*now.*

BIRD MACHINE COMPANY
South Walpole - - - - Massachusetts

BIRD PULP SCREEN

5463

Activities of Fox River Valley Paper Mills

Marinette & Menominee Paper Co. Completing Big Order for Toilet Paper—Continental Officials State Tissue Output Will Show 700 Per Cent Increase During Coming Year—Victory Bag & Paper Co. Resumes Operations

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., October 10, 1932—Establishment of a branch plant of the Manhattan Rubber Manufacturing Company, of Passaic, N. J., at Neenah, Wis., was announced by the company last week. The Hewitt Machine Company's plant, with 7,500 feet of floor space, has been taken over and is being equipped to manufacture all sizes of rubber rolls for paper machines. The plant is to be ready for operation this week.

The company has built up a large trade with Wisconsin mills over a period of thirty years and hopes to render faster service to the Fox River Valley and other Wisconsin mills by having a plant near at hand. A considerable saving in freight charges will also be accomplished.

Arthur Campbell, of Passaic, N. J., is to manage the branch. Two other men from the eastern plant also will be transferred, but Neenah labor will be used for the remainder of the force. Sales will be handled from the Chicago office at 122 South Michigan Avenue.

R. J. Cullen Optimistic

R. J. Cullen, president of the Seminole Paper Company, a division of the International Paper Company, spent several days at Marinette, Wis., recently completing the transaction which gave the Marinette and Menominee Paper Company, also an International subsidiary, an order for 38 cars of tissue. The order was received from the Kroger Grocery and Baking Company, operating a chain of 4,800 food stores, and is considered the largest single delivery of tissue ever made at one time in this country.

Quite a celebration was arranged at Marinette by A. B. Hansen, general manager of the Marinette mill, when the deal was completed, and many idle employees were called back to work. A "Back to Prosperity" day was held, with men prominent in official and business life present. The talks were broadcast over radio station WTMJ, Milwaukee. Mr. Hansen acted as toastmaster.

Mr. Cullen said in his address that there was no greater proof of improved business conditions than the large order received by his company. He said the Southern Kraft Corporation has increased its production 200 per cent in the last two months and the output is now 1,300 tons per day on twelve machines.

Albert H. Morrill, president of the Kroger company, also was present and addressed the luncheon, declared he is positive the business slump is over and business is again on the upgrade. He commented that by such large-scale buying activity, the country's best business men hold possibility of recovery largely in their own hands.

"There has been too much buying in dabs and driblets," added Mr. Morrill. "We can't restore factory production and reduce unemployment by pursuing such a course forever. I believe that a universal policy of sudden large-scale buying would effect a national trade revival over night."

Universal News Reel had camera men present taking pictures of the employees returning to work, Mr. Morrill signing the contract for the large order of tissue, and machines of the Park mill in operation.

It was predicted by Continental officials that the tissue output would show an increase of several hundred per cent during the coming year. The Victory Bag and Paper Company, Marinette, another plant of the International, has resumed operations as a towel and tissue converting plant.

Paper Chemistry Institute Elects

Robert B. Wolf, general manager of the pulp division of the Weyerhaeuser Timber Company, Longview, Wash., has been added to the membership of the board of trustees of the Institute of Paper Chemistry at Lawrence College, Appleton, Wis. The semi-annual meeting of the board was held last week at Appleton. D. K. Brown, general manager of the Neenah Paper Company, Neenah, Wis., and L. M. Alexander, president of the Nekoosa-Edwards Paper Company, Nekoosa, Wis., were re-elected as trustees, their terms having expired.

All officers were re-elected, including the following: Ernst Mahler, Neenah, president; D. Clark Everest, Wausau, Wis., vice president; Dr. Henry Merritt Wriston, president of Lawrence College, secretary and director; R. J. Watts, treasurer; Westbrook Steele, executive secretary, and Dr. Otto Kress, technical director. Hugh Strange, Neenah, and Monroe A. Wertheimer, Kaukauna, are the other trustees.

News of the Industry

Fifty men are to be placed at work planting trees on the 26,000-acre forest tracts set aside by Oneida County, in the Northern lake region of Wisconsin. Approximately 175,000 trees, mostly Norway and white pine, will be set out. The county also plans to clean up cutover areas where a good second growth has been started.

Large timber holdings of the Wausau Paper Mills Company in Lincoln County, Wis., were threatened by a forest fire last week, but a crew of 100 men succeeded in battling the blaze. The fire swept through a large area of slashings adjacent to the timber.

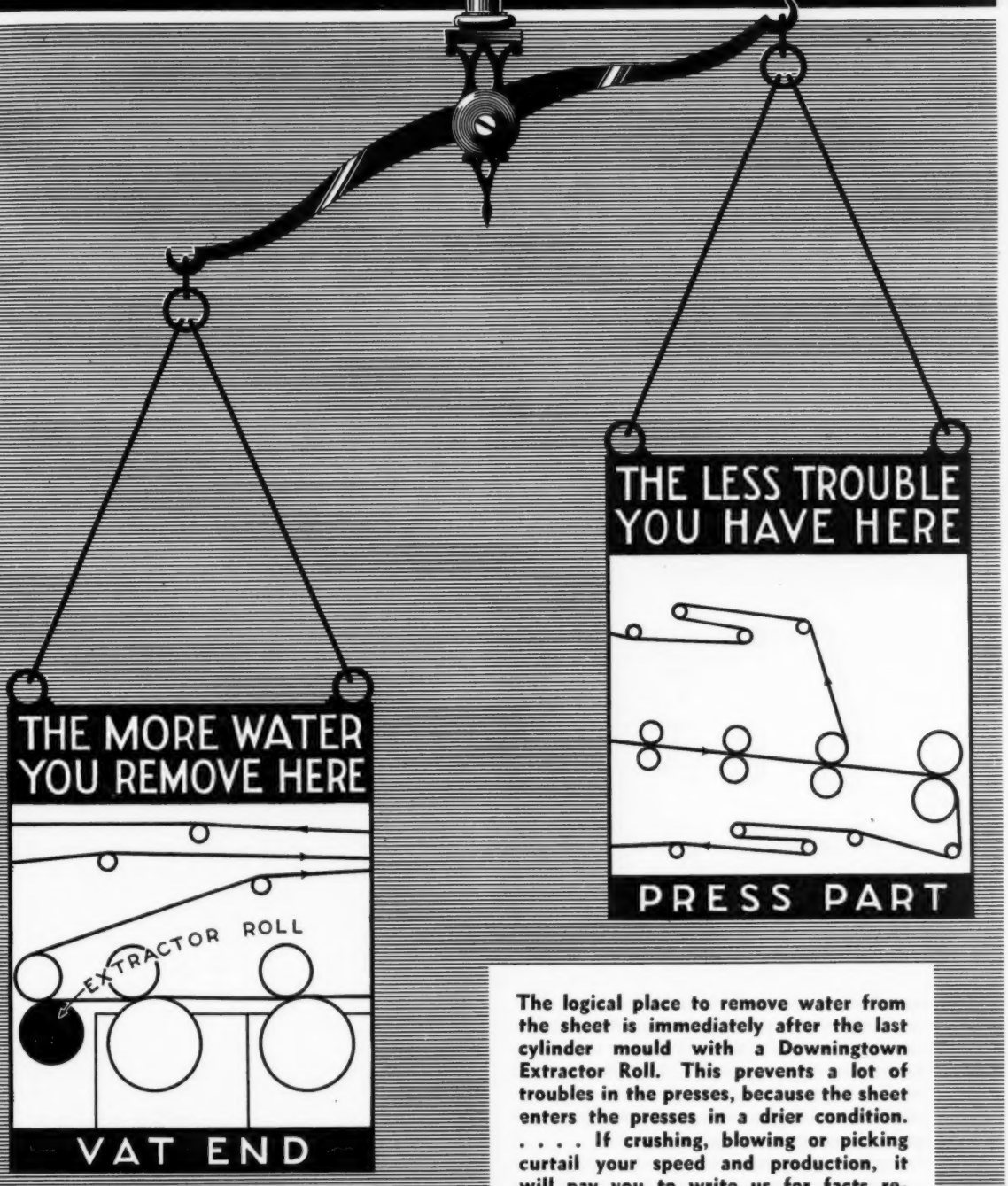
Claybourn Corporation, Milwaukee, manufacturers of large, high speed presses for multi-colored wrappers and other printing products, booked orders during September amounting to $120,000. Two large new commercial color presses are being built for a Chicago concern. The number of inquiries for new equipment is on the increase, with good prospects of further orders. The company has 120 employees on full time.

Glens Falls Paper Mills Busier

[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., October 8, 1932—Improvement is reported from principal mills in this section and a number have been increasing production in recent weeks. Orders being handled at the mill of the Imperial Color and Paper Corporation, compare favorably with other years and the removal of the Hackensack branch to this section is believed to be largely instrumental in allowing the maintenance of the present schedules. Shipments of the products of the Veldown Branch of the International Paper Company have been increased in recent weeks and orders are being booked which will necessitate capacity schedules for some time. Curtailed schedules are in effect at the mills of Finch, Pruyn & Co., but indications are that normal operations will soon be observed.

DOWNINGTOWN



The logical place to remove water from the sheet is immediately after the last cylinder mould with a Downingtown Extractor Roll. This prevents a lot of troubles in the presses, because the sheet enters the presses in a drier condition. . . . . If crushing, blowing or picking curtail your speed and production, it will pay you to write us for facts regarding results obtained by mills using the Extractor Roll. . . . . The Downingtown Mfg. Co., Downingtown, Pa.

Boston Paper Trade Conditions More Favorable

General Paper Merchants Report Fine Paper Business Better, In Varying Degrees—Improved Seasonal Demand Experienced for Kraft Wrapping Paper, With Quotations Firmer—Paper Board Situation Continues Strong

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., October 10, 1932—The wholesale paper market as a whole, continues more favorable, although a few factors tend to retard movement to some extent. Jobbers report business better in fine paper, in varying degrees, some noting a little improvement and some a very slight improvement, particularly in the increasing number of small orders. New lines of fine paper continue to be offered. There is a better seasonal demand for wrapping paper. The rise of No. 2 kraft to .02¾ from a former price of .02½ is encouraging. The minimum quotation for No. 1 kraft is now .04¾, compared with a previous one of .04½. The decline of news print is rather discouraging, at least temporarily. The lower price of 44.50 for news print in rolls is ascribed to an undesirable surplus and the fact that foreign exchange allows the importation of pulp at reduced figures.

Within a week or so some manufacturers of fancy boxes for candy have found difficulty in obtaining all the box board they needed at the moment, as well as cellophane. The board situation remains strong, with the call for material for candy cartons and shoe cartons well sustained. Quotations are unchanged, filled news board bringing $30.00 and chip board $27.50. There is a good business in box papers, particularly in special lines for shoe boxes.

The paper stock market has been fairly steady in practically all lines. Values are unchanged. It is stated in the trade that manufacturers have not changed their ideas, but that owners of paper stock have done so, and for this reason, there is less trading. The gunny market continues strong, with material remaining scarce. Domestic gunny is "cleaned up," according to the trade, and in order to meet the Southern market foreign scrap bagging is quotable at .80 to .85 on the dock. The better grades of wash flax waste have been stimulated in price. Foreign new cuttings, such as Oxfords, light flannelettes and new greys are being bought in reasonable quantities by the writing mills.

Colonel Franklin Addresses Paper Merchants

The first meeting of the season of the New England Paper Merchants Association was held at the Harvard Club of Boston Thursday evening with about twenty present. In the absence of President William Rourke, on account of illness, Vice-President Edward Bement presided. The speaker of the evening, Col. B. A. Franklin, formerly vice-president of the Strathmore Paper Company, gave an interesting address on business conditions.

H. L. Samson Discusses Business Growth

The officers and members of the sales department of Stimpson & Co. Inc., were guests Thursday evening at a dinner at the Statler Hotel, given by Henry L. Samson, Eastern representative of the Hoberg Paper and Fibre Company, of Green Bay, Wis. Mr. Samson is well known in the trade, having been an important factor in the paper towel and tissue business for more than 25 years.

He gave an extremely interesting and educational address on the growth of the business, outlining the future policy of his company. The products of the Hoberg Fibre and Paper Company, distributed by Stimpson & Co., Inc., in New England under the Evergreen trade name, are becoming well known in this territory. W. H. Loud, president of the Boston firm, presided at the meeting, at which 25 were present.

News of the Trade

The S. D. Warren Company has been holding a series of small group meetings of salesmen of the Storrs & Bement Company at which were introduced some "startling improvements."

At the rooms of the Advertising Club of Boston last week was a display of various papers handled by the Storrs & Bement Company. The club has a display of merchandise of some firm each week.

The Arnold Roberts Company is handling the following three new lines made by the A. M. Collins Company, Philadelphia: Bookcraft for booklets to be mailed, is made in two sizes and even colors. Leather-Glo Cover is an embossed cover paper, which prints with ease and brilliance and has excellent durability and folding qualities. There are six colors, two sizes and one weight. The texture of Handweave "provides distinction in appearance as well as in printability." It is made in five colors, two sizes and standard weight.

Business at the Boston office of the American Writing Paper Company is well sustained, after a September which was better than August and an August which was better than July.

The firm of Henry L. Goodman has transacted a considerable business in a special line of papers for shoe boxes. Mr. Goodman and his associate, Robert A. Ford, are to visit the mills in Holyoke, Mass., tomorrow.

Mr. and Mrs. Goodman and their son have returned from a two weeks' vacation to East Marion, Mass.

Frank W. Tully, in charge of the white paper department of Stimpson & Co., Inc., and Mrs. Tully, are receiving congratulations on the birth of a son.

Trimbey Machine Works Active

[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., October 1, 1932—Full time schedules are being carried on at the plant of the Trimbey Machine Works which is among the leading producers of paper making equipment in the country. A number of European contracts have kept the entire force busy for some time and it is expected that existing conditions will continue to prevail. The company is now busy turning out several consistency regulators for a paper mill in Budapest, Hungary, and a weight regulator for a concern in France. Shipments will be made within a few weeks.

Among orders completed recently was a metering system which was shipped a few weeks ago to a prominent paper mill in Sebnitz, Germany. An agency is maintained by the company in that country which keeps in contact with conditions in the paper industry. A metering system was also shipped recently to a concern known as the Papeteries Beghin, at Cordehem, France, which has expressed satisfaction over the products of the local company. Several similar contracts from the same source have been turned out here.

Section of a Goodrich "Vulcalock" roll. The cover is cushion rubber right down to the metal core. No hard rubber . . . no waste. If you want one hundred cents of live cushion for every dollar spent, specify "Vulcalock" rolls.

Don't pay for USELESS HARD RUBBER

WHEN you buy a roll — you want cushion . . . you *pay* for cushion. Do you get 100 cents' worth for every dollar you spend? *Only* if the roll you buy is a Goodrich "Vulcalock."

The Goodrich "Vulcalock" is the *only* roll that gives you 100% cushion right down to the metal core. All other makes have a hard rubber base that reduces their cushion and their life . . . often by as much as 25%.

For example, take a hard rubber base roll with a 1" cover. ¾" of the cover is cushion rubber, ¼" hard rubber . . . *dead* rubber. This hard rubber acts merely as a binder to hold the outer layer of cushion rubber to the metal core. It is a manufacturer's compromise for which *you* pay.

You pay for waste cushion when you buy a hard rubber base roll. You pay again when it's time to re-cover. The metal core must be re-roughthreaded . . . *ground down*. Rubber must replace the metal to bring the roll up to the proper diameter. This extra rubber, of course, costs money.

By the "Vulcalock" method, the rubber cover is bonded *directly* to the metal core with an adhesion in excess of 500 lbs. to the square inch; practically an integral union.

When you order a "Vulcalock" roll, you can be sure that the rubber formula has not been tampered with for the sake of effecting a vulcanization of two different rubbers at the same time. The single rubber used in a "Vulcalock" roll can be compounded exactly to your individual requirements.

Literature describing the "Vulcalock" method in greater detail mailed on request . . . quotations on specific jobs submitted without obligation. Address your inquiries to The B. F. Goodrich Rubber Co., (Est. 1870) Akron, Ohio.

SECTION OF A HARD RUBBER BASE ROLL. *The hard rubber is dead rubber . . . valueless as a cushion. Since it is about ¼" thick, this dead base represents 25% waste in a 1" cover.*

B. F. Goodrich

VULCALOCK PAPER MILL ROLLS

Obituary

Adolph Lomb

Adolph Lomb, vice-president of the Bausch & Lomb Optical Company, died at his home in Pittsford, N. Y., a suburb of Rochester, on Sept. 30, after a brief illness. He was 66 years old.

Mr. Lomb, the eldest son of Captain Henry Lomb, the co-founder of the Bausch & Lomb Optical Company, had been connected with the optical institution established by his father and John Jacob Bausch for 53 years. He entered the company when a young lad of 14, leaving temporarily to continue his university studies.

Besides being an executive of the Bausch & Lomb Company, Mr. Lomb was identified with a number of scientific and patriotic societies, chief among which was the Optical Society of America. Mr. Lomb had been treasurer of that organization since its inception and one of its most beneficent financial supporters.

Carrying on a work instituted by his father, Mr. Lomb was interested in the welfare and activities of Civil War Veterans and the Sons of Civil War Veterans. He was a trustee of the Henry Lomb Camp, Sons of Union Veterans.

Mr. Lomb, who was born in Rochester in 1866, was a graduate of the University of Rochester, Class of 1892, and had also taken advanced work at the Massachusetts Institute of Technology and the University of Berlin, Germany.

He leaves his mother, Mrs. Emilie Klein Lomb, widow of Captain Henry Lomb; a brother, Henry C. Lomb of New York City; a nephew and two nieces. Mr. Lomb was unmarried.

Among the many scientists and educators who sent messages of condolence to members of Mr. Lomb's family or to his fellow executives in the company, were, Dr. Nicholas Murray Butler, president of Columbia University, New York; Dr. E. C. Crittenden of the United States Bureau of Standards at Washington; Dr. F. K. Richtmyer, Professor at Cornell University and editor of the "Journal of the Optical Society of America"; M. J. Julian, director of the Better Vision Institute, of New York; and Dr. James D. Southall, of Columbia University.

John C. Cunningham

John C. Cunningham, paper finishing machinery salesman and paper specialist for B. F. Perkins & Son, Inc., died suddenly in Dickinson Hospital, Northampton, September 28. He was sixty years old.

Mr. Cunningham entered the employ of the Russell Paper Company as a boy in 1889 and worked in the office and on the paper machines until 1900. He spent the years until 1902 with the George E. Kunhardt Company, returning to the paper business in 1902 when the Champion-International Company was organized.

He served as calender foreman for a short time when he was made night superintendent of the coating mill, which position he held until 1917, when he was given charge of the finishing room with responsibility covering both day and night work. In December, 1923, he left the Champion-International Company to take his position with B. F. Perkins & Son, Inc., of Holyoke.

Mr. Cunningham was a 32d degree Mason, a member of the Lawrence Lodge and of the Massachusetts Consistory of Boston, also Aleppo Temple, Order of the Mystic Shrine of Boston.

He leaves his wife, Susan F.; a daughter, Phyllis J.; and a son, George M., all at home; also three brothers, James D., of Arlington; William M., of Lawrence, and George B., of New York; and three sisters, Mrs. D. D. Black, of Andover; Mrs. Arthur Amedee, of Lawrence, and Mrs. F. A. Upton of Reading.

Mary L. Heffernan

Mary L. Heffernan died at her home in Brooklyn on Saturday, September 24, after an illness of less than three days. Death was due to pleural pneumonia.

Miss Heffernan had been in charge of the telephone and information department of The New York and Pennsylvania Company for twenty-nine years and her loss will be keenly felt by every member of that organization and by the many friends she had made during her years of service in the paper trade.

Aldis L. Lockwood

POTSDAM, N. Y., October 8, 1932—Aldis L. Lockwood, pioneer paper manufacturer, died at his home here this week following an illness brought about through his advanced age. He was one of the organizers of the Northwood Manufacturing Company, which produced paper products, novelties, etc., in this village about 1895 but disposed of his interests soon after its formation. He was also identified with the Northern Wall Paper Company, which carried on business here for a number of years. For the past few years, however, he had conducted a wholesale paper business under his own name.

Peter Yousey

[FROM OUR REGULAR CORRESPONDENT]

CARTHAGE, N. Y., October 8, 1932—Peter Yousey, for many years prominent in the paper manufacturing industry, died this week following an extended illness. He was 75 years old. For a number of years he was a part owner in the Island Paper Company, prior to its disposal to Charles Pratt. Upon leaving that business he conducted a lumber business which was sold when he retired a few years ago.

Paper Mill Employment Increases

WASHINGTON, D. C., October 12, 1932—Employment in the paper and pulp and paper box industries increased very slightly in August over July according to the Bureau of Labor Statistics, Department of Labor.

Reports were received by the Bureau from 419 paper and pulp plants who gave their August employment at 76,610, a very slight increase of less than one-tenth of one per cent, but a decrease compared with August of last year of 11.1 per cent. The average weekly August pay rolls in these plants amounted to $1,333,944, an increase of 1.8 per cent over July, but a decrease of 32.8 per cent compared with August last year.

The Bureau received reports also from 315 paper box factories who gave their August employment at 19,367, an increase of .1 per cent over July, but a decrease of 17.9 per cent compared with August of last year. The average weekly August pay rolls in these plants amounted to $327,095, a decrease of .1 per cent from July, and of 32.3 per cent from August last year.

Sol Cohen Incorporates

[FROM OUR REGULAR CORRESPONDENT]

PROVIDENCE, R. I., October 3, 1932—Sol Cohen, Inc., wall papers, has been incorporated. There are 200 shares of preferred stock, $100 each and 100 shares of common stock of no par value. The incorporators are Joseph P. Canning, North Providence; Edward M. Brennan and Andrew P. Quinn.

STAINLESS AND HEAT RESISTING PIPE AND TUBES

U S S Chromium-Nickel Alloy Steels are produced under the licenses of the Chemical Foundation, Inc., New York; and Fried. Krupp A. G. of Germany.

For certain uses of the Paper Field, tubing materials of quite special properties are required. High resistance to corrosion and protection against certain acids are indispensable; but they must be secured in combination with other qualities found only in high-grade steels. NATIONAL U S S Stainless and Heat Resisting Pipe and Tubes have been developed to meet such needs. They are now available with variations of character corresponding to formulas that long research has proved most useful. Specifically, U S S 18-8 (18% Chromium, 8% Nickel) and also U S S 17 (16% to 20% Chromium) and U S S 12 (11% to 14% Chromium) are recommended to the Paper Industry. No one formula is equally adapted for all purposes. Discriminating choice leads to maximum satisfaction. In any case of doubt, NATIONAL engineers and technicians will gladly assist in determining the best applications. Correspondence is invited. Ask for informative booklet, "NATIONAL U S S Stainless and Heat Resisting Pipe and Tubes".

NATIONAL TUBE COMPANY - Pittsburgh, Pa.

Subsidiary of United States Steel Corporation

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

St. Paul, Minn.—The Minnesota Mining and Manufacturing Company, 791 Forest street, manufacturer of sandpaper and other abrasive paper stocks, has plans under way for a new addition to plant, consisting of two top stories to present mills Nos. 2 and 3, 46 x 152 feet. Estimated cost about $40,000, with equipment, Toltz, King & Day, Inc., Builders' Exchange Building, is architect and engineer. J. E. Cable is secretary.

Carlyle, Ill.—The Carlyle Paper Company is resuming operations at its local mill, following shut down since the middle of last May. Plant will run on a 24-hour production schedule, giving employment to about 80 men. W. P. Hinkel is vice-president.

New York, N. Y.—The Pincus Paper Box Manufacturing Company, recently organized by Abraham H. Schwartz, 1299 East 19th street, Brooklyn, N. Y., and associates, plans operation of a local plant for the manufacture of paper boxes and containers. Company is capitalized with 100 shares of stock, no par value. Alfred Messenger, 1651 Carroll street, Brooklyn, is interested in new organization.

Old Hickory, Tenn.—The local mill of the duPont Cellophane Company, manufacturer of cellulose wrapping materials, is running on a capacity schedule, with full working force in all departments. It is expected to hold to this basis for an indefinite period.

Fitchburg, Mass.—Crocker, Burbank & Co., Westminster street, has work nearing completion on a one-story and basement addition to mill, 50 x 60 feet, previously referred to in these columns, and will occupy at an early date. Wiley & Foss, Central street, Fitchburg, are general contractors for the unit.

Chicago, Ill.—The Container Corporation of America, Inc., 111 West Washington street, with local plants on East North Water and North Ogden streets, manufacturer of corrugated paper boxes and containers, etc., has increased production schedule at plants, and is now running on a higher basis than for several months past, with larger working quotas.

Boonville, N. Y.—The Boonville Paper Box Company, Inc., has been organized with a capital of $15,000, and plans operation of a local plant for the manufacture of paper boxes and containers. The new organization is headed by Ray F. Sasenbery and Fred M. Buckley, both of Boonville.

Baltimore, Md.—The Monumental Paper Box Company has conveyed title to the building and land at 526 South Paca street, to William Scheidt. The main plant of the company is located at 515 Warner street.

York, Pa.—The Gilbert Wall Paper Company has resumed production at its local mill, following shut down of a number of months, giving employment to about 100 persons.

St. Louis, Mo.—The Sanico Paper Products Company, recently organized by Benjamin S. Lang, 5965 Cabanne street, and associates, is said to be planning operation of a local paper converting plant.

Enka, N. C.—The American Enka Corporation, manufacturer of cellulose rayon products, has advanced production schedule to a full capacity basis, giving employment to about 1930 persons in different departments.

Jersey City, N. J.—The recently organized Fibrone Corporation, referred to last week in these columns, has taken out a state charter under name of the Fibrone Sales Corporation, with capital of 100 shares of stock, no par value, and will be represented by Edward M. O. Pratt, 1440 Broadway, New York, an attorney. Company has leased space in building at 50-52 Essex street, Jersey City, totaling about 12,000 square feet of floor space, and will equip for new plant for the manufacture of fiber products. Leo Kotler and Morris Mond, both of New York, are interested in the new organization.

Moss Point, Miss.—The International Paper Company, New York, N. Y., is arranging for immediate resumption of operations at paper mill at Moss Point, following shut down since last January, and will give employment to an initial working quota of about 400 men.

Sturgis, Mich.—The new addition now being constructed by the Harvey Paper Products Company, manufacturer of paper products for the food trades, previously referred to in these columns, will be 60 x 70 ft. It will be the fourth addition to the plant during the past four years, and will be used for increased production. General contract for superstructure was recently let to Frank Shoemaker, Sturgis.

Indian Orchard, Mass.—The Fiberloid Company, Worcester street, manufacturer of fiber products, has awarded a general contract to the Adams & Ruxton Construction Company, 1387 Main street, Springfield, Mass., for two new additions to plant, consisting of a three-story structure, 26 x 26 feet, and one-story unit, 45 x 45 feet. Work will be placed under way at once. Expansion is reported to cost over $40,000, with equipment.

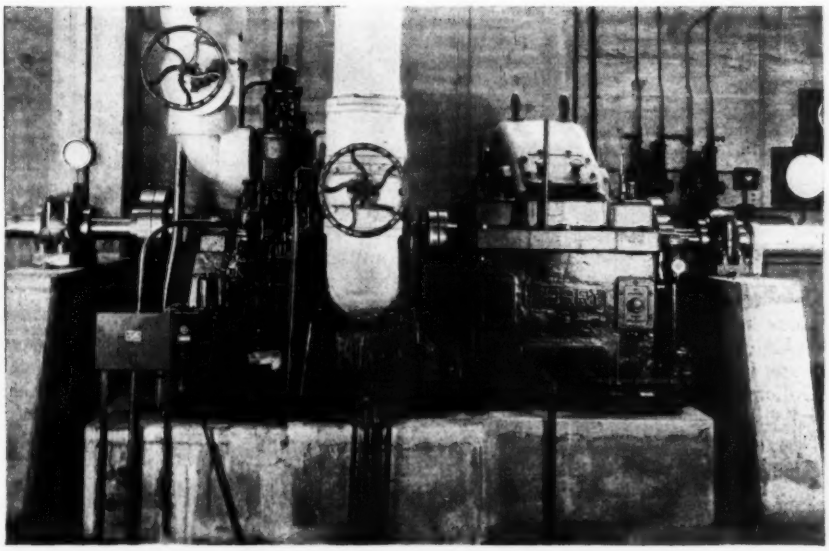
Marlboro, Mass.—The National Tag and Label Corporation has been organized by James M. Portmore, 2 Solon street, Wellesley, Mass., with capital of $20,000, and plans operation of local plant for manufacture of tags, labels and other paper goods.

New Companies

New York, N. Y.—The E. C. Carpenter Company, Inc., has been incorporated, with a capital of $10,000, to manufacture and deal in paper stocks, placards, etc. William Stein, 276 Stockton street, Brooklyn, N. Y., and Sey-

TERRY

PAPER MACHINE DRIVE



400 HP Variable Speed Turbine Paper Machine Drive — Compact — Efficient — Dependable — Delivers Clean Exhaust Steam for Driving.

GIVES ANY DESIRED SPEED

Among the many advantages of the Terry Paper Machine Drive is its ability to give higher paper speeds. It thereby enables the operators to obtain a wider speed range.

It can be built to give any speed throughout a 10 to 1 range. Whatever speed is most suitable for the stock is immediately available. All speeds from minimum to maximum are secured without steps. Unusually accurate regulation is obtained at all settings.

Why not investigate the possibilities of one of these dependable units? No obligation.

The TERRY Steam Turbine Co.
TERRY SQUARE, · · HARTFORD, CONNECTICUT
TURBINES, GEARS SHAFT COUPLINGS

mour Phillips, 1230 Bay street, Staten Island, N. Y., are principal incorporators.

New York, N. Y.—The Whitney-Emery Manufacturing Corporation has been organized with a capital of $25,000, to operate a paper converting plant for the manufacture of tags, pin tickets and kindred paper specialties. Edward T. Whitney, 249 Paine avenue, New Rochelle, N. Y., heads the company.

Dallas, Tex.—The State Card Digest Corporation has been organized with capital of $50,000, to operate a paper converting plant for the manufacture of card stocks, index cards and kindred paper specialties. The incorporators are E. W. Debower and R. I. Ryan, both of Dallas.

New York, N. Y.—Baselice Brothers, Inc., have been incorporated with capital of 200 shares of stock, no par value, to manufacture and deal in paper goods. Company is represented by Straus & Osserman, 1225 Broadway, New York, attorneys.

New York, N. Y.—The Vandervere Paper Corporation has been incorporated with a capital of 200 shares of stock, no par value, to manufacture and deal in paper products of various kinds. The incorporators include Mortimer D. Atlas, 1270 East Nineteenth street, and Abraham Shorr, 2016 Sixtieth street, both Brooklyn, N. Y.

Brooklyn, N. Y.—The Morris Paper Company, Inc., has been incorporated with a capital of 100 shares of stock, no par value, to manufacture and deal in paper goods of various kinds. The incorporators include Morris Levine, 348 Knickerbocker avenue, and Irving Suchin, 92 Blake avenue, both Brooklyn.

College Point, L. I.—The Wayco Fibre & Gasket Corporation has been organized with a nominal capital of $2500, to manufacture fiber products of different kinds. The incorporators include John Wiegand, Jerusalem avenue, North, Bellmore, L. I., and Richard Lampe, 10-39 Third avenue, College Point, L. I.

Chicago, Ill.—The Jewel Paper Products Company, 701 West Twenty-second street, has been organized with a capital of $10,000, to manufacture and deal in paper products of various kinds. The incorporators are D. B. Hatmaker, S. Albert Stern and William J. Lederer.

New York, N. Y.—The H. & J. Shapiro Company, Inc., has been incorporated with a capital of 100 shares of stock, no par value, to manufacture and deal in paper goods. The incorporators include Alfred Taffet, 147 West Forty-second street, New York, and Henry Amelkin, 32 Chester street, Brooklyn, N. Y.

Hummel-Ross Announce New Lines

The Hummel-Ross Fibre Corporation of Hopewell, Va., has recently developed some new and interesting grades of specialties in addition to regular kraft wrapping and sulphate board of interest to fine and wrapping paper merchants and converters.

To market the new grades they have appointed in New York City—Wm. E. Ebbets with offices at 63 Park Row, World Building, phone Beekman 3-0191.

In addition to Mr. Ebbets, Hummel-Ross Fibre Corporation has appointed as sales representatives in their respective locations, the following gentlemen:—L. Fitzgerald, 1822 Lewis Tower Building, Philadelphia, Pa.; A. B. Fishwick, 226 E. 8th Street, Cincinnati, Ohio; C. H. Dodge, 10 High Street, Boston, Mass.; E. H. Meyer, Allerton Hotel, Cleveland, Ohio; Stanley J. Low, 201 N. Wells Street, Chicago, Ill.; J. G. Trigg, Hummel-Ross Fibre Corporation, Hopewell, Va. The supervision of sales is handled by L. R. Boswell, sales manager, who makes his headquarters at the mill at Hopewell, Va.

Phillie Gear "Vertical" MotoReduceR

The Philadelphia Gear Works, Philadelphia, Pa., announce the Vertical Type "MotoReduceR" is an ideal drive for agitators, mixers and any other type of vertical drive.

Because of its compact design a minimum amount of head room is required and a very small portion of the space on top of tanks is required for support. It also eliminates the necessity of providing structural supports which give ready access to openings and connections which are located on the tops of tanks.

The motor and gear apparatus is self-contained in a single housing and because of the unique design it is practically vibrationless and noiseless in operation. Misalignment of parts is impossible.

All gears are made from heat treated nickel steel with helical cut teeth and all bearings are of the anti-friction type. The slow speed shaft is mounted on over-size Timken roller bearings generously spaced which compensate for upward or downward thrust and take care of the side whip of the extended vertical shaft and eliminate the use of the objectionable step bearing.

The "MotoReduceR" is available in single, double and triple types with ratios up to 450:1 and can be furnished with standard open type or totally enclosed fan cooled motors, polyphase and single phase. Also available with direct current motors up to 10 hp.

Lawrence Electropump

The Lawrence Pump and Engine Company, Lawrence, Mass., has just issued a descriptive bulletin covering the many features of its new "Electropump," a centrifugal for general pumping service. Among the special features of this new pump are, that the ball bearing motor and pump

are built into one unit, thereby reducing the number of rotating parts. Couplings are eliminated and a special foundation is not required. It is an easily portable unit requiring small space and can be operated in vertical, horizontal or inclined position. The unit consists of a single stage, single suction, fully bronze fitted, with close-coupled motor. The impeller is of the enclosed type, mounted, keyed and locked on the extension of the motor shaft.

The Bulletin, which may be obtained upon request, is illustrated with sectional views of this new pump, gives rating tables and other descriptive data.

Note the *Bottom* Blade Mounting › ›

—IT'S DIFFERENT

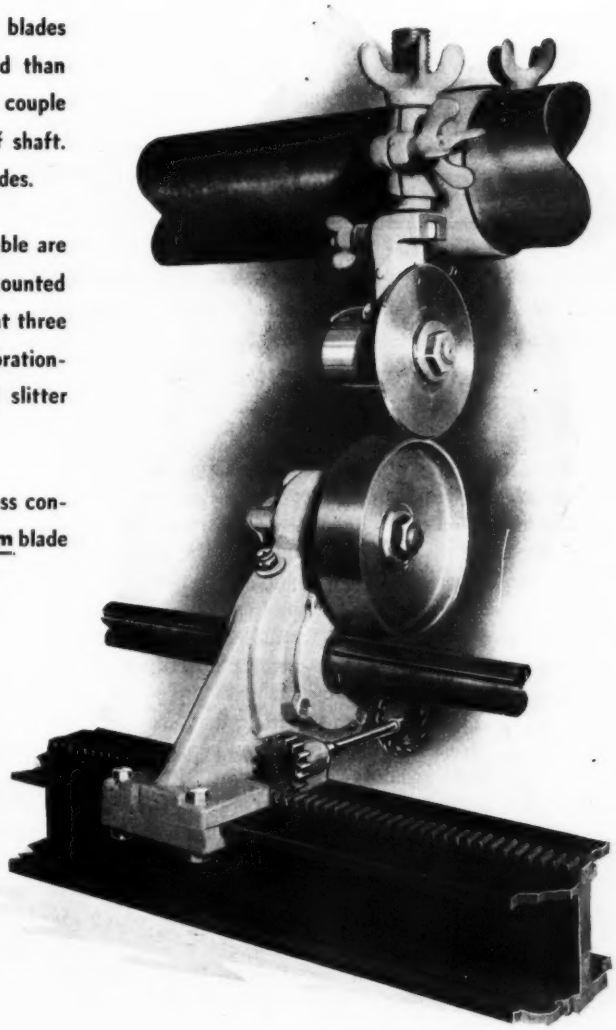
ACCESSIBLE for YOUR CONVENIENCE

Under the usual arrangement of mounting bottom blades directly on shaft, a dull blade is more easily observed than cured. It is necessary to dismount shaft, and possibly a couple of blades, to replace a dull or nicked blade midway of shaft. Hence the tendency to postpone regrinding bottom blades.

In "M & W" Ball Bearing Slitters, these causes of trouble are avoided. The bottom blades, instead of being mounted directly on shaft, are mounted above it and gear-driven at three times shaft speed. This permits using slow-running, vibrationless shaft. Both drive shaft (which is splined) and slitter spindles run in annular ball bearings.

This gives a true-running, almost frictionless and wearless condition with minimum need for lubrication. Any bottom blade can be replaced in a moment or so, without disturbing shaft or any other blade, merely by undoing end nut holding it on its shaft.

To complete the improvement, top blades also run in ball bearings. Thus the chance of frictional drag, and of wabble due to worn bearings, is eliminated. Any top blade is replaced, like any bottom blade, by removing one nut.



- **SAVES CLAIMS FROM PRINTERS DUE TO DUST AND BAD EDGES.**
- **PREVENTS BLADE WABBLE THUS ELIMINATING SLITTER CRACKS.**

Easy Blade Removal

Off and on in a Jiffy . . . Just undo the Nut

THE MOORE & WHITE COMPANY

Paper Mill Machinery

FIFTEENTH ST. AND LEHIGH AVE. PHILADELPHIA, PA.

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NEWS PRINT RUMORS

According to reports conditions in the news print industry are the subject of many rumors in Canada and so far there is no authentic information regarding possible developments as a result of the price-cutting competition which has broken out. On one side it is averred that prices are stabilized for the time being around the new figures set by the International Paper Company; on the other it is said that companies are scrambling for business at lower figures. The factor of Scandinavian competition is still being discounted, yet it has its unsettling effect, which has been added to during the week by news from Great Britain. This news is to the effect that Scandinavian producers are prepared to supply news print mills in Great Britain with ground wood pulp at $12 per ton—about half the price that prevailed not long ago—and that with this as a basis British competition might enter more largely into the situation.

It is recognized here that nothing short of major consolidations can be expected to bring order out of chaos, and strenuous efforts to bring these about are still being made. One report has it that Consolidated Paper Corporation may take over Abitibi, which is countered by another rumor that a possible and more natural line-up would be the amalgamation of Abitibi with International and the combination of Price Brothers with Consolidated and St. Lawrence. The re-entry of Lord Beaverbrook on the scene is also predicted.

Other talk revives the rumor that a dictator may be appointed, not only because of the difficulties in arriving at any kind of a working agreement under present conditions, but because American paper buyers are said to be practically defying the producers to hold them to their contracts.

The situation is summed up by the Financial Times of Montreal as follows:

"Mills are now selling their product at prices which will produce a loss to the companies even before bond interest—which none of the news print organizations is now meeting. With consumption at less than 50 per cent of mill capacity on this continent and no worth-while indications of any expansion in demand, people in close touch with the industry are at a loss to understand the reason for delay in some action being taken that would permit the industry to meet prevailing conditions and at least cut the inevitable losses. This, it is pointed out, can only be done by the consummation of one, or possibly two big mergers and the actual scrapping of excess mill capacity.

"The mere closing down of mills, it is stated, cannot solve the problem in which the news print industry finds itself today, as apart from the heavy overhead charges accruing even on an inactive-mill, the fact that the plants and equipment are there acts as a temptation to the operator, which could not be long resisted—no matter how solemn the agreement entered into—to make a bid for additional tonnage to keep the mill in operation. What must be done to save the industry from a complete breakdown is to reduce actual productive facilities to a point where there is a comparatively even balance between prospective demand in the near future and maximum mill capacity. In other words, before the news print industry can again be placed on anything approaching a healthy footing, the leaders of the industry must admit the serious errors of the past and take their medicine in the form of dismantling mills on which huge capital expenditures have been made for their establishment."

A NEW INDUSTRY—MANUFACTURE OF SOUND ABSORBING MATERIALS

Under this heading, the Bureau of Standards in its August Technical News Bulletin, calls attention to the rapid development in the manufacture of sound-absorbing materials for use in correcting the acoustic quality of auditoriums. This should be of interest to manufacturers of fiber board because this product is one of the important materials used for this purpose. The following statements are made concerning the growth of the industry and of the Bureau's facilities for meeting its requests for service.

Though the underlying principles of architectural acoustics have been known for nearly 40 years, the subject attracted but little attention from those who should have been interested until the introduction of talking pictures. It was then found that many theaters which had been built for silent pictures were acoustically almost useless. This discovery stimulated the study of means for correcting the difficulty and directed attention to such sound-absorbing materials as were then available.

These materials were limited in number, and some of them were serious fire risks. Development of new materials to meet the demand brought requests for service in the measurement of their sound absorption.

In 1928 the facilities for this work were limited to two laboratories, both in the State of Illinois. In the fall of

1928 the Bureau of Standards completed a reverberation room for making such tests and placed it in service. During the remainder of that year its facilities were used by two manufacturers.

In 1929 seven different firms sent material for measurement, and this number was increased to 18 in 1930 and 23 in 1931, in which year the total number of samples measured was 97. For the first half of 1932 the demand for service of this character has been considerably in excess of the 1931 rate.

The Bureau has issued several scientific papers dealing with acoustics, and its Letter Circular 326 contains sound absorption coefficients for 37 different materials, among which are many fibrous products.

International Envelope Is Low Bidder

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, October 10, 1932.—Again it appears that the International Envelope Corporation will obtain the contract for furnishing Government stamped envelopes and newspaper wrappers as it was the lowest bidder last week in Washington.

William J. O'Connell, who is in charge of the Dayton plant, was in Washington to attend to the details of submitting bids and wired to the company in this city that the International's bid was low. He remained in the Capital City to close the contract details. Few changes will be necessary in carrying out the terms of the contract as the plant equipment is complete and there is ample expert help in this city and vicinity. The award has been delayed temporarily because of the absence of Postmaster General Walter F. Brown.

Bagging of the four-year contract will prove a boon to Miami Valley paper manufacturers, in addition to the International, as much of the envelope paper is supplied by Franklin and Dayton concerns.

The International Envelope Corporation, or its predecessors have had the contract for making and printing Government stamped envelopes and wrappers for 25 years.

Approximately 800 persons are on the payroll at the Front street plant and extension of the contract terms will mean a continuance of steady employment of this number, with the probability that more will be engaged in the future.

It will be recalled that during the past few months efforts were made to revise the contract and let it out in small lots to individual printers throughout the country. Objection had been made to the President and to Congress that the printing of the return address should not be part of the manufacturing contract as hundreds of printers were deprived of employment as a result of the combination. Congressman Byron B. Harlan appeared before the proper committee, representing the business interests of Dayton and the Miami Valley, and insisted that the contract not be changed. As a result the contract was kept in Dayton.

Bids for Government Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 12, 1932.—The Government Printing Office has received the following bids for 4,030 sheets of buff card board; Reese & Reese, Inc., at $49.92 per M sheets; Old Dominion Paper Company, $54.40; Whitaker Paper Company, $57.00; R. P. Andrews Paper Company, $57.00; Virginia Paper Company, $52.00; and Mathers-Lamm Paper Company, $53.00.

Advertising Business Show Attracts

The Fifteenth Annual Conference and Advertising Business Show of the Direct Mail Advertising Association was held at the Hotel Pennsylvania, New York, last week and attracted an excellent attendance. Among the many interesting and artistic exhibits on display were the following:

Aetna Paper Company, Dayton, Ohio; Albermarle Paper Manufacturing Company, Richmond, Va.; American Writing Paper Company, Holyoke, Mass.; Appleton Coated Paper Company, Appleton, Wis.; Berlin & Jones Company, Inc., New York; Martin Cantine Company, Saugerties, N. Y.; A. M. Collins Manufacturing Company, Philadelphia, Pa.; Du-Plex Onvelope Corporation, Chicago, Ill.; Falulah Paper Company, Fitchburg, Mass.; Hammermill Paper Company, Erie, Pa.; Howard Paper Company, Urbana, Ohio; International Paper Company, New York; Japan Paper Company, New York; McLaurin-Jones Company, Brookfield, Mass.; Maxwell Paper Company, Franklin, Ohio; Miller & Wright Paper Company, New York; Paper Makers Advertising Club, Holyoke, Mass.; Schlosser Paper Company, New York; Strathmore Paper Company, West Springfield, Mass.; Ticonderoga Pulp and Paper Company, a Division of International Paper Company, New York; S. D. Warren Company, Boston, Mass., and Wrenn Paper Company, Middletown, Ohio.

Included in the fifty firms whose campaigns have been chosen for the Direct Mail Letters Exhibit in 1932 are:

Seaman-Patrick Paper Company, Detroit, Mich., which was awarded the cash prize of $100.00; American Writing Paper Company, Holyoke, Mass.; Chemical Paper Manufacturing Company, Holyoke, Mass.; Hercules Powder Company, Wilmington, Del.; International Paper Company, New York; Linweave, Springfield, Mass.; Rag Content Paper Manufacturers, Springfield, Mass., and S. D. Warren Company, Boston, Mass.

The Albermarle Paper Manufacturing Company Trophy —$100.00 in gold—awarded to the firm or individual submitting the most effective blotter or series of blotters used during the twelve months from October 1, 1931, to October 1, 1932, or for a series beginning or ending during that time, was won by Schneiderath & Sons, Baltimore, Md.

The Standard Envelope Manufacturing Company Trophy—a bronze plaque—presented for excellence in design, color, typography and layout, was awarded to the Eddy Press Corporation, Pittsburgh, Pa.

Crane & Co. To Close Westfield Mill

[FROM OUR REGULAR CORRESPONDENT]

WESTFIELD, Mass., October 11, 1932—The local mill of Crane & Co., paper manufacturers is to close Saturday of this week when the business will be transferred to the mills at Dalton. Japanese linen, the special paper made here for years will be made there. Provision has been made for tiding the employees of the mill over the winter, some of the older ones being pensioned.

The mill started about 60 years ago when Robert and James A. Crane, two brothers, came from Dalton and opened what has been known as the Crane lower mill. Later they bought the Pultz & Walkley company mill which was after known as the upper mill. For years the watermark of the Cranes was a crane standing erect.

The concern won prizes at the Centennial Exposition at Philadelphia in 1876 and at the Columbia Exposition in Chicago in 1893. After the death of Robert Crane the mills were sold to Crane & Co. of Dalton.

BENNETT
TRADE MARK

ROSIN-WAX SIZE

Why Bennett Rosin-Wax Sizes were used in over 200,000 tons of paper and board during 1931:

Finish and Gloss:

Because wax is susceptible of taking a high polish under friction, rosin-wax sizes are of a very definite advantage in papers where a high gloss is desired.

It has also been found that the presence of even a small percent of wax in a sheet of paper will tend to lay down the fuzz or hairiness and to eliminate felt marks, thus giving a smoother surface.

Pliability & Folding Quality:

While rosin makes the paper hard and brittle, wax imparts to it a softness and pliability which are very desirable in envelope paper, coating raw stock, hanging paper, folding boxboard, etc.

Water Resistance:

Because wax increases the difference in surface tension between water and the fibres to a greater extent than rosin, rosin-wax sizes are ideal for all kinds of really waterproof papers and boards such as Butcher's Wrapping Paper, Wallboards, Insulating Boards, etc.

Permanency:

The deteriorating action of light and air on rosin sized papers is well known. Such papers on ageing turn yellow, become hard and brittle, lose their original finish, strength and sizing. Wax, being practically impervious to air and light, materially improves the permanency of paper products in which it is present.

Curling or Warping:

Papers or boards sized with rosin-wax sizes do not curl or warp as much as those sized with rosin size. While rosin, when fluxed during the drying process, coats the fibres, it appears that wax not only coats them but also permeates them to a certain extent. Thus wax sized papers do not lose or absorb moisture as readily under varying atmospheric conditions.

For over 50 years the advantages of using wax in paper sizing have been well recognized, but until five years ago no process had been developed which made this possible on a commercial scale.

Bennett Rosin-Wax Sizes were the first to demonstrate that wax could be successfully and economically employed in paper sizing.

By means of specially designed equipment and newly discovered stabilizers, patented in the United States and foreign countries, the Bennett Size Making Process produces wax emulsions of such minute particle size, and high stability, that they can safely be used for paper sizing under the most exacting mill conditions.

During the last five years the consumption of Bennett Rosin-Wax Sizes has shown a steady increase, and today they are the accepted standard of quality in the paper trade.

Our Technical Representatives will gladly discuss your sizing problems with you and indicate the improvements to be expected from using Bennett Size.

Bennett Rosin-Wax Sizes can be purchased prepared for use directly in the beater, but it is more economical to make the size in your mill through a Bennett Dispersion Machine.

Bennett Incorporated
CAMBRIDGE, MASS., U. S. A.

Bennett Limited
CHAMBLY CANTON, P. Q., CANADA

Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

Direct Heated Digester Operation Control*

By M. B. Hall[1]

Several years ago, patents were granted on certain methods of digester operation involving automatic control of top relief and automatic control of steam flow. These applied particularly to the direct-heated digester. However, materials were not available to prosecute these ideas satisfactorily and it was not until the introduction of some of the new steel alloys and of suitable automatic control equipment that any commercial progress could be made with this system of operation.

In any problem of automatic control, there will be one or more variables which must be controlled in order to produce the desired results. In digester operation, there are a number of variables, including the character of the chips, the moisture content of the chips, the concentration of the acid, the ratio of free to combined acid, the temperature of the acid at the start of the cook, the rate of pressure relief and the rate of inlet steam flow. It is perfectly obvious that the more of these variables that can be controlled, the more uniform will be the resulting product, and we might state categorically that they should all be controlled. Theoretically this would be correct, but practically such procedure might not be necessary.

We then consider the two most easily controlled variables which the sulphite cook has been using in his regular operations; namely, steam input or temperature and pressure relief. With these two variables under reliable automatic control, it will be much easier for the cook to maintain predetermined schedules and be able to produce a more uniform and better quality of pulp.

Circulation in Digesters

Another point that must be considered in digester operation, is circulation within the digester. In considering this question, we are considering only the direct-heated digester and it is a general assumption, probably well-founded, that in the average operation of a direct-heated digester with hand control of steam flow and manual pressure relief, the internal circulation is very erratic.

Circulation is promoted in two ways by steam velocity and thermosyphonic action or convection currents. Good cooking practice requires steam to be let in easily at the beginning of the cook to avoid boring or channeling. With the present hand operations, it is impossible to avoid surgings within the digester resulting from intermittent pressure relief and variation in inlet steam flow.

It is therefore, reasonable to assume that if the inlet steam flow can be continuous and smooth with no fluctuation in rate of flow, yet based on some predetermined schedule, and if the pressure relief can operate in such a manner that the outflow of the relief gases is continuous and smooth, there will be but little or no surging in the digester with a resultant uniformity of circulation that should reduce gas pockets and channeling to a minimum and practically eliminate regurgitation or belching.

Recent developments in automatic control equipment have produced instruments which will control flows without introducing surges. In the oil refining industry may be found some of the most difficult problems in automatic control and in order to overcome these problems, this entirely new system of automatic control was developed. It is adaptable to any control problem in which process lags preclude the use of the conventional type of control equipment and digester operation is one of these particular problems.

Digester Control

There are two digester control installations on the Pacific Coast at the present time that are being watched with considerable interest. Both these installations are using automatic top relief and automatic steam inlet flow control. They have been in operation now for several months and the results are apparently very gratifying.

It is not the writer's intention at this time to present a technical discussion to your group but merely to acquaint you with these developments to date and to tell you of further study that will be made within the next few weeks on a 15-ton direct-heated digester in one of our larger New England sulphite mills.

In addition to the automatic top relief and steam flow equipment, there will be automatic liquid level control with the valve in the side relief line, which can be set to reduce the liquor level in the digester at about the time the chips begin to soften and to maintain this liquor level throughout the cook.

With the idea of obtaining definite information on the temperature distribution throughout the digester as well as the rate of temperature changes, this digester will be equipped with 12 thermocouples at different elevations and positions around the digester and two 6-record pyrometers will produce continuous records of the temperatures at the various points.

Suitable means will be provided for obtaining steam flow input records and gas relief flows and it is reasonable to assume that the results obtained from such an investi-

TAPPI SECTION, PAGE 167

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* Presented by title at the fall meeting of the Technical Association of the Pulp and Paper Industry, Holyoke, Mass., February 14-16, 1932.

[1] Manager, Pulp and Paper Division, The Foxboro Company, Foxboro, Mass.

gation will be a valuable addition to the information now available on direct-heated digester operation and action. It is hoped that the results of this investigation will be available to the members of this association at your next meeting.

In obtaining sole license under the Allen patents for digester operation, The Foxboro Company has made it possible for the pulp and paper industry to have the full benefit of this comparatively inexpensive method of digester operation, with automatic control equipment that has been developed for just such difficult control problems. Without the right kind of materials and control equipment, the benefit from these patents was very materially restricted. There will be no effort spared in making the necessary analysis and presenting the facts for the benefit of the industry as a whole.

Stability of Paper by Heating

The results of study made at the National Bureau of Standards of some details involved in the technic of making the aging test for paper, in order to improve the reproducibility of the test results, were reported in PAPER TRADE JOURNAL, July 28, 1932.

One of the most convenient methods so far devised for estimating the aging properties of paper consists of measuring the change in folding endurance after the paper has been heated in air for 72 hours at 100 deg. C. and reconditioned. The per cent retention of folding endurance is taken as an index of the probable life of the paper. Four sources of error influencing the retention value are: (1) lack of homogeneity in the structure of the paper, (2) variations in different folding machines, (3) variations in humidity during testing, and (4) variations in oven conditions.

Recommendations were made to minimize the effects of the above-mentioned variables. The paper used for the control sample should be as representative of the paper used for the heat treatment as possible. This is accomplished by cutting four folding strips adjacent to one another from 10 representative sheets and using alternate strips for control and heat test samples. It was found that the agreement of the folding endurance of adjacent strips was twice that of strips cut from widely separated areas.

In order to minimize the possibility of errors resulting from testing machine variations and the slight unavoidable departures of the relative humidity from that specified for the testing room, the testing of control and heated strips is alternated so that both are tested on the different machines an equal number of times, and both are equally subjected to the effects of variable humidity.

Samples should be heated in an oven controlled at 100 deg. C. plus or minus 2 deg. C., in which the air is circulated to insure uniform temperature throughout. With the procedure described the reproducibility of test data is commensurate with the accuracy of the folding test.

New Gleason Works Booklet

The Gleason Works, Rochester, N. Y., has just issued a new booklet titled "Engineering Data on large Hypoid and Spiral Bevel Gears," containing very complete information on the design, application efficiency, speeds and horse power transmission of these two types of Bevel Gears, besides standard specifications from which the engineer can elect gears suitable for his installation. Copy of this booklet may be had by writing to the Gleason Works.

Acid-Polluted Air Destroying Old Books

The Bureau of Standards continues to pile up evidence that air polluted with acid fumes resulting from combustion of fuels is a serious hazard in preserving records contained on paper. The fuels most commonly used, contain sulphur which on combustion passes into the air as sulphur dioxide and eventually forms the corrosive sulphuric acid.

A few months ago the Bureau published the results of exposure of writing and book papers, under carefully controlled laboratory conditions, to air containing an amount of sulphur dioxide not greatly exceeding that found in badly polluted localities. On ten days exposure all grades of the papers became strongly acid and were weakened to an alarming extent. The acid apparently had a destructive effect on the fibers, the basic source of strength in these types of paper.

Recently, physical and chemical testing of paper from duplicate copies of old books that had been stored in libraries in various localities were completed.

The results of these tests are a striking confirmation of those obtained in the laboratory experiments, because without exception the paper of books stored in industrial areas, where acid pollution is high, had higher acidity, showed greater deterioration of the cellulose in the fiber, and were correspondingly weaker than the paper from books favored with relatively pure air.

Whether a paper can be made resistant to deteriorative influences, as is done in the case of rubber by incorporating anti-oxidants, remains to be found, but it seems rather doubtful if perpetual protection against the constantly increasing acidity of air in thickly populated localities can be secured in this way. In any case, as previously suggested by the Bureau, it appears that a wise precaution in such localities is to seal the library as far as possible, and not only regulate the temperature and humidity of the incoming air but to also treat it with an alkaline wash water to neutralize the acid. In time the growing realization of the adverse effects of polluted air on both materials and human beings may result in the more complete solution—prevention of pollution.

Joint Soap Wrapper Committee

The Executive Committee of the Technical Association of the Pulp and Paper Industry at its recent meeting approved the formation of a joint committee to cooperate with the Soap Committee of the American Oil Chemists Society in studying the use requirements of soap wrapper paper and to formulate specifications.

T. L. Crossley of Toronto, Ontario, was appointed representative of the Technical Association. Mr. Crossley is a consulting chemist serving the Canadian paper industry, and is chairman of the TAPPI Soap Wrapper Sub-Committee which has recently been transferred from the Paper Testing Committee to the Paper Use Requirements Committee of the Research and Development Division.

Japanese Paper Output

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 5, 1932—Paper production in Japan during July by the mills of the Japanese Paper Manufacturers' Association, totaled 54,644 tons and sales 49,369 tons, bringing the totals for the first seven months of the year up to 376,992 tons and 379,686 tons respectively as against 390,338 tons and 384,006 tons during the corresponding period of last year.

Litharge and Glycerine Mortars

George W. Gleason[1]

Summary

(1) The litharge-glycerine mortars, when made up with Portland cement and sand, are so plastic and "fat" that there appears to be little difference in the glycerine requirement for a certain plasticity due to the type of sand used. The addition or subtraction of relatively small amounts of glycerine solution change the consistency materially.

(2) A continual increase in the strength of set mortar is experienced with increase in the glycerine content of the glycerine-water solution used to mix the mortar. Such variation, because of the price of glycerine, should make possible an optimum concentration for given conditions.

(3) The richer mixes of litharge appear to have less strength than the leaner ones. In so far as the variation in richness of mix was carried out (1:5 parts of litharge to other materials by dry loose volumes) only a slight decrease in the compression strength was encountered while the tensile strength appears quite uniform over a wide range. The writer hazards a guess that the results may be due to the lack of "seed" in the richer mixes, consequently much of the litharge may function as centers of crystal growth and as such are not contacted by the glycerine and do not act as bonding substance.

(4) Full strength is attained in a relatively short period of time. There is some evidence of a slight recession in strength after the maximum at approximately three days cure.

(5) A wide variation in yield, glycerine requirement for brick mortar plasticity, shrinkage over original volume and density are experienced with variations in the mix. It is considered that the data presented on the yield of set mortar are fully of sufficient accuracy for estimation and cost calculation.

(6) Although strength and corrosion resistance are at times related, it is not considered safe to assume that even though some of the more economical mixes gave relatively high strengths they would prove suitable as corrosion resisting substance. The results of exposure of the mortars to corroding media and correlation with the mortar strength await further study.

Practically the writer has found many uses for this mortar. It forms a strong, quick setting cement for placing steel pins in concrete or machine base bolts, it cements tile joints, joins broken concrete, embeds wall inserts, etc. The property of rapid set combined with the high strength attained to a large measure overcomes the high cost of the mortar. It is hoped that in extending the use of the litharge-glycerine mortars, the foregoing proves of some value and the writer gladly invites criticism or further knowledge on the subject.

Introduction

Mixtures of litharge and glycerine, with or without admixtures or diluents, have long been useful as industrial cements, lutes or bonding agents where strength or corrosion resistance are desired. Sufficient interest has been indicated through requests for information regarding the physical properties and economy of mixtures of litharge-glycerine cemented mortars to warrant a study of them. Aside from requests for information, the system of litharge and glycerine merits study because of the unavailability of data of a commercial nature. The literature contains material relative to the chemical nature of setting but no results of measurements of strength or yield of mortar are included. Accordingly, the following presents the results of a brief study of various mixtures of litharge, glycerine, Portland cement and sand as they might be used in industrial practice, especially as brick mortar for sulphite digester lining. It is also the purpose to comment briefly upon the available knowledge pertinent to such mixtures.

Nature of Setting

When litharge and glycerine are mixed together, the glycerine being in decided excess, heat is evolved and the two substances undergo chemical combination. The result is a crystalline formation to which Merwin[2] has assigned the formula $C_3H_6O_2.PbO$ and to which Neville[3] has assigned the formula $Pb_3(C_2H_3O_3)_2$. The product of Merwin is evidently formed as,

$$PbO + C_3H_5(OH)_3 = PbO.C_3H_6O_2 + H_2O$$

while Neville gives for his product

$$3PbO + 2C_3H_5(OH)_3 = Pb_3(C_3H_5O_3)_2 + 3H_2O$$

TABLE I
ANALYSES OF CRYSTALS FROM LITHARGE GLYCERINE MIXTURE

	Calculated		Author	
Substance	Merwin	Neville	Trial 1	Trial 2
Pb	69.8	77.7	69.40	69.36
C	12.1	9.0	11.82	11.96
H	2.0	1.3	1.39	1.63
O (by diff.)	16.1	12.0	17.39	17.05
	100.0	100.0	100.00	100.00

The writer caused intimate contact of commercial buff litharge with excess 64 per cent by weight glycerine solution for a period of three months by daily shaking the mixture in a stoppered flask. The crystals so formed were separated, washed, dried and analyzed with the results as presented in Table I, indicating that the compound of lower lead content is probably the result of such mixing.

Pure c.p. litharge and c.p. glycerine set very slowly and it has been determined that the addition of the hydroxyl ion by the dilution of the glycerine with water or more decidedly by the addition of small amounts of caustic to a water glycerine solution accelerates the reaction and promotes more rapid set of a mortar. It appears probable that the difference in the crystalline product might be due to differences in the reaction rates or to impurities in the materials or solute. Neville[3] considers the reaction to take place in two steps analogous to the setting of plaster of Paris, i.e. (1) preliminary absorption of the liquid by the solid phase and, (2) exothermic reaction between the absorbed liquid and the solid. The greatest heat liberations were experienced from mixtures of three mols of litharge with 2 mols of glycerine. It has been pointed out that the condition of the litharge is of importance, the finer ground material producing more rapid set. The buff colored litharge appears more suitable for mortars with the canary yellow intermediate and the red very poor.

Experimental Conditions

Several mixtures of commercial litharge, c.p. and anti-freeze glycerine, three typical sands and Portland cement were prepared in attempts to hold all variables constant

[1] Assistant professor Chemical Engineering, Oregon State College, Corvallis, Ore.
[2] J. Ind. & Eng. Chem. 9, 390, 1917.
[3] J. Phys. Chem. 30, 1181, 1926.

TABLE II
YIELD OF SET MORTAR FROM A 1:1:1 MIX OF LITHARGE, SAND AND CEMENT WITH VARIABLE GLYCERINE CONTENT

Sand Used	Dry Loose Volumes— Cu. Ft. Litharge	Sand	Cement	Glycerine, gal.	Yield of Mortar cu. ft.	lb.
Concrete	1	1	1	6.34	2.39	481
Concrete	1	1	1	6.87	2.43	486
Concrete	1	1	1	7.40	2.47	487
Concrete	1	1	1	7.93	2.55	489
Standard	1	1	1	6.34	2.39	486
Standard	1	1	1	6.87	2.44	488
Standard	1	1	1	7.40	2.49	493
Standard	1	1	1	7.93	2.53	504
Mason	1	1	1	6.34	2.39	481
Mason	1	1	1	6.87	2.45	486
Mason	1	1	1	7.40	2.49	487
Mason	1	1	1	7.93	2.55	487

TABLE III
WEIGHTS OF MATERIALS USED IN THE LITHARGE GLYCERINE MORTARS

Material	Weight per Cubic Foot, Dry and Loose Kilos	Pounds
Litharge	110.45	244
Cement	42.60	94
Mason sand	42.25	93
Concrete sand	44.41	98
Standard sand	45.40	100
Glycerine (gal.)	4.42	9.75*

* Glycerine specific gravity 1.168 at 68 deg. F. for 64 per cent by weight soln.

except the one under investigation for any series of tests. In this manner it was hoped to obtain the effect of a single variable upon the physical character of the set mortar as measured by the strength 1½-inch by 3-inch compression cylinders and A.S.T.M. cement, tension briquettes were prepared from the mixes. Density and weight measurements were made upon materials used and product formed, enabling the calculation of yield data. Due to the price of materials, small amounts were used but due care was taken to insure accuracy of measurement that was compatible with specimen sizes. Since the litharge-glycerine mortars are more plastic or "fat" than cement sand mortars, a uniform method of compaction produced void-free specimens of uniform density for each set of specimens. Since the reaction of setting is not a hydration in the sense similar to the setting of Portland cement, the specimens were cured in air at room temperature and humidity.

Three and at times four specimens were prepared for each increment of variation which established one point

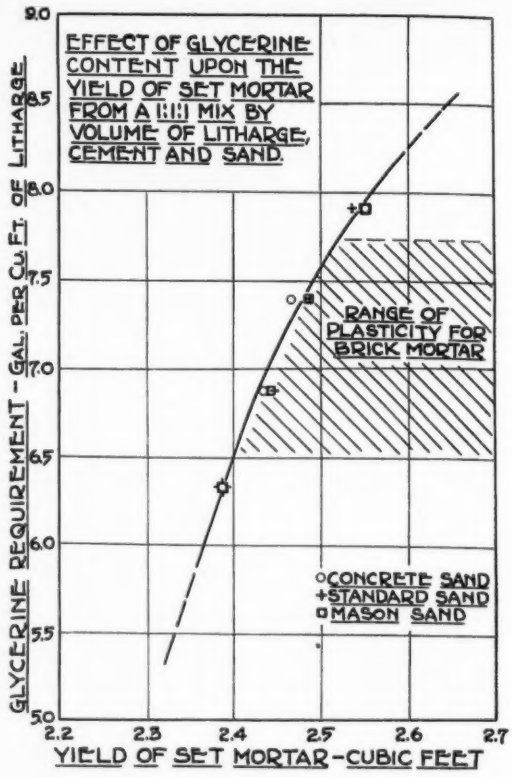

FIG. 1

on the subsequent curves, the result being the average for all specimens of one set. Because of the extent of the data, each separate specimen is not reported but simply the average as indicated above.

Results

Since it was evident from a few trial tests that a small

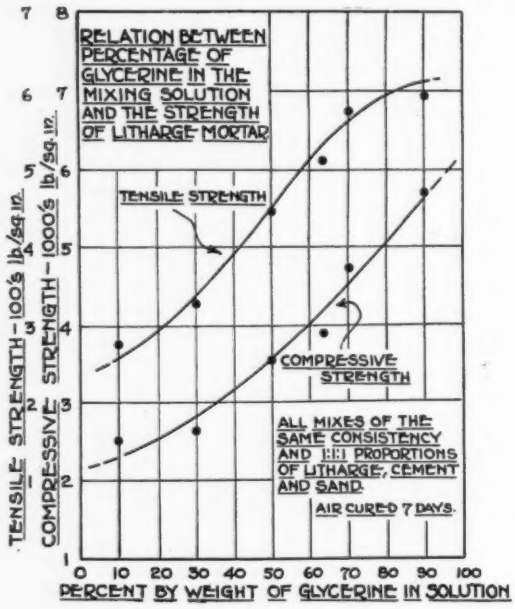
RELATION BETWEEN PERCENTAGE OF GLYCERINE IN THE MIXING SOLUTION AND THE STRENGTH OF LITHARGE-MORTAR
TENSILE STRENGTH
COMPRESSIVE STRENGTH
ALL MIXES OF THE SAME CONSISTENCY AND 1:1:1 PROPORTIONS OF LITHARGE, CEMENT AND SAND.
AIR CURED 7 DAYS.
TENSILE STRENGTH - 100's lb./sq.in.
COMPRESSIVE STRENGTH - 1000's lb./sq.in.
PERCENT BY WEIGHT OF GLYCERINE IN SOLUTION
0 10 20 30 40 50 60 70 80 90 100

FIG. 2

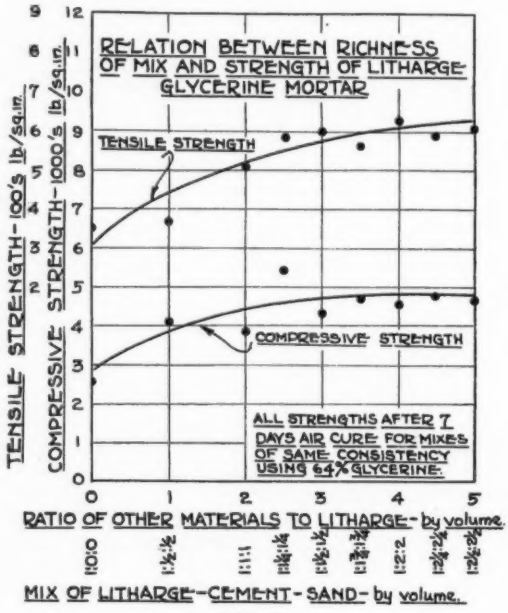
RELATION BETWEEN RICHNESS OF MIX AND STRENGTH OF LITHARGE-GLYCERINE MORTAR
TENSILE STRENGTH
COMPRESSIVE STRENGTH
ALL STRENGTHS AFTER 7 DAYS AIR CURE FOR MIXES OF SAME CONSISTENCY USING 64% GLYCERINE.
TENSILE STRENGTH - 100's lb./sq.in.
COMPRESSIVE STRENGTH - 1000's lb./sq.in.
RATIO OF OTHER MATERIALS TO LITHARGE - by volume.
MIX OF LITHARGE-CEMENT-SAND - by volume.

FIG. 3

TABLE IV
SIEVE ANALYSIS OF SAND USED

Tyler Sieve No.	Per cent Retained Concrete	Per cent Retained Mason	Per cent Finer Concrete	Per cent Finer Mason
4	0.1	....	99.9	100.0
8	13.0	....	86.9	100.0
14	15.7	0.1	71.2	99.9
28	29.6	37.2	41.6	62.7
48	28.8	42.8	12.8	19.9
100	10.2	16.1	2.6	3.8
Pan	2.6	3.8	0.0	0.0
Sum	100.0	100.0		
Fineness Modulus of Concrete Sand			2.85	
Fineness Modulus of Mason Sand			2.14	

TABLE V
SPECIFIC GRAVITY OF WATER GLYCERINE SOLUTIONS

Per cent glycerine by weight	Specific gravity at 60 deg. F.
10	1.024
20	1.049
30	1.075
40	1.101
50	1.128
60	1.156
70	1.184
80	1.211
90	1.238
100	1.264

TABLE VI
RELATION BETWEEN THE GLYCERINE CONTENT OF THE SOLUTION USED IN A 1:1:1 MIX OF LITHARGE, CEMENT AND SAND AND THE COMPRESSIVE AND TENSILE STRENGTH AFTER SEVEN DAYS CURE IN AIR

Per cent glycerine in solution (by weight)	Solution, gal. per cu. ft. of litharge	Yield of set mortar, cu. ft.	Strength—lb. per sq. in. Comp.	Strength—lb. per sq. in. Tension
10	8.05	2.55	2,230	287
30	7.80	2.53	2,301	322
50	7.69	2.52	3,500	438
64	7.69	2.52	3,895	511
70	7.69	2.52	4,805	580
90	7.69	2.52	5,735	535

amount of glycerine changed the consistency of the unset mortar a large amount, it was necessary to determine the glycerine or glycerine solution content that would produce a mortar of a consistency suitable for handling and use. A 1:1:1 mix of litharge, cement and the different sands, all measured by dry loose volume, was taken as a standard of comparison and various amounts of glycerine solution were incorporated. The results are presented in Table II and graphically in Fig. 1, with the suitable range of consistency as determined by observation indicated. All subsequent consistencies were regulated to fall intermediate between the limits of the established plasticity range. Such consistencies were not controlled by measurements since it was considered that the operator's judgment was sufficiently accurate for the purpose.

In order to enable subsequent calculations, it was necessary to know the unit weights of the materials in a dry loose state since all measurements of proportion were made upon this basis. Table III presents the results of the weights of the materials as determined and as used. Table IV gives the sieve analyses of the three different sands used.

Variable Glycerine Concentration

At the outset it was realized that the concentration of

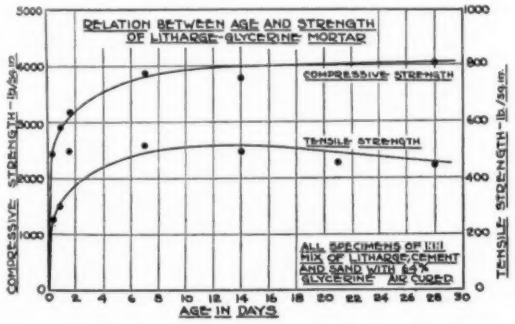
RELATION BETWEEN AGE AND STRENGTH OF LITHARGE-GLYCERINE MORTAR
COMPRESSIVE STRENGTH
TENSILE STRENGTH
ALL SPECIMENS OF 1:1:1 MIX OF LITHARGE, CEMENT AND SAND WITH 64% GLYCERINE AIR CURED
COMPRESSIVE STRENGTH - LBS. PER SQ. IN.
TENSILE STRENGTH - LB. PER SQ. IN.
AGE IN DAYS

FIG. 4

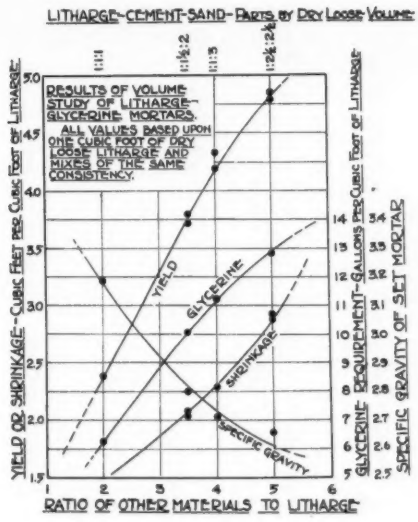
LITHARGE-CEMENT-SAND-PARTS BY DRY LOOSE VOLUME
RESULTS OF VOLUME STUDY OF LITHARGE-GLYCERINE MORTARS.
ALL VALUES BASED UPON ONE CUBIC FOOT OF DRY LOOSE LITHARGE AND MIXES OF THE SAME CONSISTENCY.
YIELD
GLYCERINE
SHRINKAGE
SPECIFIC GRAVITY
YIELD OR SHRINKAGE-CUBIC FEET PER CUBIC FOOT OF LITHARGE
GLYCERINE REQUIREMENT-GALLONS PER CUBIC FOOT OF LITHARGE
SPECIFIC GRAVITY OF SET MORTAR
RATIO OF OTHER MATERIALS TO LITHARGE

FIG. 5

the glycerine solution might have a material effect upon mortar strength, consequently this variable was studied first. Various solutions of glycerine in water were made with the assistance of Table V. The same 1:1:1 mix of litharge, cement and sand as used in the consistency tests was combined with the different glycerine solutions to form mixtures of the proper consistency. (These consistencies were rather close to the upper limit of Fig. 1 to facilitate compaction.) A slight variation of solution content was

TABLE VII
RELATION BETWEEN THE RICHNESS OF MIX WITH RESPECT TO THE LITHARGE CONTENT AND STRENGTHS OF DIFFERENT MIXES OF LITHARGE, CEMENT AND SAND CURED FOR SEVEN DAYS IN AIR

Mix Litharge Cement:Sand	Ratio of litharge to other material	Gallons of glycerine* per cu. ft. litharge	Yield cu. ft.	Strength—lbs. per sq. in. Comp.	Strength—lbs. per sq. in. Tensile
1:0:0	1:0	....	....	2,580	355
1:½:½	1:1	3.50	1.45	4,120	360
1:1:1	1:2	6.30	2.39	3,895	511
1:1¼:1¼	1:2.5	7.70	2.90	5,493	587
1:1½:1½	1:3	9.00	3.38	4,330	600
1:1¾:1¾	1:3.5	10.15	3.82	4,731	562
1:2:2	1:4	11.22	4.22	4,627	630
1:2¼:2¼	1:4.5	12.08	4.56	4,847	597
1:2½:2½	1:5	12.85	4.86	4,740	607

* Glycerine solution of 64 per cent by weight glycerine.

TABLE VIII
RELATION BETWEEN STRENGTH AND AGE (AIR CURED) OF 1:1:1 MORTAR OF LITHARGE, CEMENT AND SAND MIXED TO SAME CONSISTENCY WITH 64 PER CENT BY WEIGHT GLYCERINE SOLUTION

Age	Strength—lb. per sq. in. Compressive	Strength—lb. per sq. in. Tensile
7 hours	2,410	255
16 hours	2,900	283
48 hours	3,160	487
7 days	3,895	511
14 days	3,760	490
21 days	.....	472
28 days	4,070	445

TABLE IX
YIELD OF SET MORTAR, GLYCERINE REQUIREMENT, SHRINKAGE FROM ORIGINAL DRY VOLUMES, AND SPECIFIC GRAVITY OF SET MORTAR FOR DIFFERENT MIXES OF LITHARGE, CEMENT AND SAND

Mix by dry loose volume	Litharge lb.	Cement lb.	Sand lb.	Glycerine soln. gal.	Yield cu. ft	Batch volume dry-loose cu. ft.	Shrinkage cu. ft.	Specific gravity
1:0:2	244	...	186 M	6.76	2.37	3.91	1.54	...
1:1:1	244	94	93 M	6.34	2.39	3.85	1.46	...
1:1:1	244	94	98 C	6.34	2.39	3.85	1.46	3.19
1:1:1	244	94	100 S	6.34	2.39	3.85	1.46	...
1:1½:2	244	141	186 M	10.09	3.72	5.84	2.12	...
1:1½:2	244	141	196 C	10.09	3.76	5.84	2.08	2.80
1:1½:2	244	141	200 S	10.09	3.74	5.84	2.10	...
1:1:3	244	94	279 M	11.22	4.22	6.50	2.28	2.72
1:1:3	244	94	294 C	11.22	4.34	6.50	2.16	...
1:2½:2½	244	235	232 M	12.84	4.79	7.72	2.93	2.66
1:2½:2½	244	235	250 S	12.84	4.87	7.72	2.85	...

found to be necessary as recorded in Table VI. The effect of glycerine content upon strength is presented graphically in Fig. 2.

Variation in Richness of Mix

Since the litharge content of a mortar mix might be expected to exert a large influence upon strength, various mixes of different litharge contents were prepared. The glycerine solution was constant at 64 per cent by weight; a uniform consistency was maintained and the mason sand was the aggregate. (The type of sand as represented by the three used appeared to make little or no difference in the results, see Fig. 1). The results of the variation in litharge content are given in Table VII and graphically in Fig. 3.

Effect of Age

The 1:1:1 mortar was used as a standard for age comparison, a number of specimens being prepared with the 64 per cent glycerine solution. The specimens were mixed in a single batch to insure uniformity. The breaking data at the different ages is given in Table VIII and graphically in Fig. 4.

Variation in Yield

Due to the relatively high cost of the litharge and glycerine that is incorporated in the mortars, it is highly desirable that some definite values of the yield of set mortar resulting from different mixes be available. Yield measurements were made on all samples prepared and are indicated in the separate tables. Table IX gives the results of the measurements after being calculated to the basis of cubic feet of set mortar per cubic foot of litharge as measured dry and loose. The results of the mortar yield are presented graphically in Fig 5. It will be noted that the slight change in volume resulting from the small variation in glycerine content necessary to maintain a definite consistency has been neglected. However, this variation is probably beyond the accuracy of the measurements made.

Pulp and Paper Industry Literature Review

Abstracts of Articles and Patents Compiled by the Abstracts and Bibliography Committee of the Technical Association of the Pulp and Paper Industry, A. Papineau-Couture, John F. Ohlson, C. E. Peterson and Clarence J. West, Chairman

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Raw Materials

Refined cellulose in place of rags for production of high-grade papers. S. Fotiev. Brum. Prom. 11, No. 3:7-10 (1932); C. A. 26: 3917.—The experimental work was begun with analysis of high-grade papers produced by the Brown Co. of U. S. A. —C. J. W.

Chemical composition of lignocellulose of the trunk and branches of some Russian varieties. F. Komrov and A. Yakovley. Bum. Prom. 11, No. 3: 13-19 (1932).—The investigation was made of *Picea excelsa, Pinus sylvestris* and *Populus tremuloides* and the results are tabulated. —C. J. W.

Linters in place of ligneous cellulose. I. Liposskii. Bum. Prom. 11, No. 3:20-23 (1932); C. A. 26:3917.—The American practice of the recovery of linters is reviewed and utilization of available 70,000 pounds of the product from the 1931 crop for production of high-grade paper and artificial fiber is discussed.—C. J. W.

French Colonial woods investigated at the French School of Paper Making. L. Vidal. Chimie Et Industrie Special No., 694-701 (March, 1932).—A brief review of the results of tests carried out at various times on the paper making qualities of a number of French colonial woods, showing the technological and economic reasons which have prevented their being used for paper making up to the present time.—A. P.-C.

Can bamboo supply the impending shortage of paper pulp? F. Hoyer. Tropenpflanzer 34:403-433 (1931); Chimie Et Industrie 27: 1399 (June, 1932).—A discussion of the availability of bamboo for supplying the ever-increasing amounts of pulp required for paper making and of its suitability for pulping.—A. P.-C.

Bamboo Pulp Problem. P. Krais. Tropenpflanzer 34:473 (1931): Chimie Et Industrie 27: 900-901 (April, 1932).—A 30 per cent yield of high grade bleached pulp can be obtained by treating at atmospheric pressure with 5 to 7 per cent nitric acid.—A. P.-C.

Trinidad woods as paper making materials. Anon. Bull. Imp. Inst. 30: 1-12 (1932).—Samples of (1) acurel (*Trichilia oblanceolata* Rusby), (2) hog plum (*Spondias Mombin* Linn.), (3) yellow mangue (*Symphonia globulifera* Linn.), (4) wild chataigne (*Pachira insignis* DC.), (5) jiggerwood (*Bravaisia floribunda* D.C.), (6) bois mulatre (*Pentaclethra filamentosa* Benth.), and (7) mahoe (*Sterculia caribaea* R. Br.) were analyzed for moisture, ash and cellulose, and were subjected to laboratory pulping tests with 20 per cent of caustic soda (on the weight of the wood) at a concentration of 4 per cent at 160°C for 5 hours (1) and (2) were also cooked for 6 hrs. in an effort to improve the bleachability of the pulps). The yields of unbleached and bleached pulps on the dried basis were: (1) 50, 41; (2) 52, 45; (3) 53, 47; (4) 46, 43; (5) 53, 45; (6) 52, 46; (7) 57, 52 per cent. On the whole the pulps were similar in character to some commercial soda wood pulps. In all cases the average fibre length was somewhat higher than that of aspen soda pulp.—A. P.-C.

Fibrous Raw Materials Developments. John Traquair. Paper Trade J. 94, No. 26: 34-37 (June 30, 1932); Tech. Assoc. Papers Series XV: 308-311 (June, 1932).—A general dscussion of the utilization for paper making of cornstalks, straws, hemp, bagasse, saw grass, manila rope and jute, old books and magazines, and cotton linters. —A. P.-C.

Highly Purified Wood Fibers as Paper Making Material. Royal H. Rasch, Merle B. Shaw and George W. Bicking. Bur. Standards J. Research 7: 765-782 (1931).—Experimental bond papers produced on a semi-commercial

scale were tested for strength, chemical purity and aging properties.—A. P.-C.

Material for Paper Making. Oscar Erf. U. S. pat. 1,848,610 (March 8, 1932).—Cornstalks, leaves, grasses or other immature green fibrous plants from which the chlorophyll has been removed are subjected to the action of an acid such as 5 per cent sulphuric acid solution under heat and pressure. The acid is removed and the material is then bleached and pulped.—A. P.-C.

Preserving Fibrous Material Such as Bagasse. Treadway B. Munroe and Elbert C. Lathrop assignors to The Celotex Co. U. S. pat. 1,854,557, (April 19, 1932).—Pith particles are separated from a mass of material such as bagasse containing 60 per cent moisture, the mass is formed into bales and the bales are stacked under cover.—A. P.-C.

De-Inking of Book and Magazine Stock. H. A. Morrison. Paper Trade J. 94, No. 18: 40-42 (May 5, 1932). —A discussion of proper waste-paper de-inking practise, showing particularly the advantages of the use of Oliver filters.—A. P.-C.

De-Inking Solution. Frederick A. Brown. Can. pat. 322,965, (June 7, 1932).—Printed paper stock is macerated in an aqueous solution containing sodium silicate and glycerin, and the resulting pulp is washed. If the printed paper stock is impregnated with wax or oil, carbon tetrachloride is added to the aqueous solution.—A. P.-C.

Paper Making Composition. George A. Richter assignor to Brown Co. U. S. pat. 1,850,139, (March 22, 1932).—At least two different kinds of pre-liberated chemical pulps are used together, one of the pulps being substantially unbeaten and of a difficultly hydratable character and the other being highly beaten and of an easily hydratable character.—A. P.-C.

Working up of Old Papers to Board, Carton and Paper Stock. Anton D. J. Kuhn. Wochbl Papierfabr. 63, No. 21 : 399-401, (May 21, 1932). —By means of eight schematic diagrams, the author has shown various ways for the working up of old papers, with special reference to the use of the prepared stock.—J. F. O.

Cellulose and Lignin

The plasticity of micellulary system, especially of cellulose. H. Mark, Ludwigshafen. Papier-Fabr. 30, No. 13: 197-205, (March 27, 1932).—The author discusses the plasticity of crystalline systems, the plastic properties of amorphous and micellulary systems, the plasticity of cellulose and its derivatives and an experiment on the quantitative translation of the tension curve. —J. F. O.

Relation of cellulose to the lignin in the wood. K. Freudenberg, Papier-Fabr. 30, No. 13: 189-197, (March 27, 1932).—The correlation of the chemical, roentgenological, optical polarization and microscopical observations on cellulose, lignin and wood forms a picture of the construction of the wood fiber, from which it is assumed that the cellulose is united to a compact micellæ series of about 600 angstroms thick and does not stand in chemical combination to the lignin. Primary lignin forms an irregular chain of less than 100 angstroms average length.—J. F. O.

Cellulose. J. Duclaux. Bull. Soc. Chim. Belg. 41:1-29 (1932).—A review of the constitution of cellulose.—A. P.-C.

New method for the characterization of cellulose preparations through solubility differences. I. Sakurada. J. Soc. Chem. Ind. Japan 34, Suppl. Binding: 426-427 (1931).—Characteristic solubility curves obtained when cellulose fibers are dissolved in cuprammonium solutions of varying copper concentration provide a method of evaluating cellulose.—A. P.-C.

Cellulose: Some new uses. W. L. Beuschlein. Pacific Pulp Paper Ind. 6, No. 6: 19-20 (May, 1932).—A brief description of some of the most recent cellulose derivatives prepared with indications of some of their possible uses.—A. P.-C.

Cellulose in industry. Hervey J. Skinner. Ind. Eng. Chem. 24:694-704 (June, 1932).—A review of the uses of cellulose in the textile, paper making and cellulose derivatives industries, with a discussion of potential sources of cellulose other than those in general use at the present time.—A. P.-C.

Hygroscopic moisture of cellulose. VI. Hydroscopic moistures of raw cotton and of tissue paper. Sutezo Oguri. J. Soc. Chem. Ind. Japan 35 (Supp. Binding) : 235-239 (June, 1932).—The hygroscopic moisture of raw cotton and of tissue paper were determined at various vapor pressures and constant temperature. From the results the isohygrometric curves were plotted. It is concluded that raw cotton and tissue paper are more hygroscopic than standard cotton cellulose, and that tissue paper absorbs practically the same amount of moisture as raw cotton under the same conditions.—A. P.-C.

Hydroscopic moisture of cellulose. VII. Hydroscopic moisture of bamboo cellulose. Sutezo Oguri. J. Soc. Chem. Ind. Japan 35 (Supp. Binding) : 239-244 (June, 1932).—The author determined the equilibrium moisture of several kinds of bamboo pulp and bamboo cellulose, and from the results plotted the isohygrometric curves.—A. P.-C.

Synthetic Lignin. L. F. Hawley and E. E. Harris. Ind Eng. Chem. 24: 873-875 (Aug., 1932).—Results are reported confirming and extending previous work by Hawley and Wiertelack (*Ind Eng. Chem.* 23, 184 (1931)) on the conversion of wood carbohydrates to lignin-like material. The similarity of this material to natural lignins is suggested by: (1) resistance to hydrolysis, (2) chlorination-sulphite reaction, (3) ultra-violet absorption spectrum, and (4) reducing value. The differences between hardwood and softwood lignins are possibly due to the preponderance of pentosan and hexosan units, respectively, that enter into their formation.—A. P.-C.

Chemistry of Australian timbers. I. Lignin determination. W. E. Cohen and H. E. Dadswell. Council Sci. Ind. Research (Australia), Division of Forest Products, Tech. Paper No. 3: 7-27 (1931).—The usual methods for determining lignin are unsatisfactory for members of the *Eucalyptus* family, preliminary extraction with benzene and alcohol, and other organic solvents, failing to remove certain non-lignin extraneous substances which are determined together with lignin by the U. S. Forest Products Lab. procedure. Satisfactory results are obtained by first treating the wood (ground to pass a 100-mesh sieve) with N/8 caustic soda at 98° to 100° C. for 80 min., filtering, washing successively with water, 10 per cent acetic acid and hot water, drying at 105°C. and determining lignin on the residue by the usual 72 per cent sulphuric acid method. The method gives results 3 to 4 per cent lower than the U. S. Forest Products Lab. method on hemlock and spruce, which is accounted for by removal of small amounts of extraneous materials insoluble in benzene-alcohol.—A. P.-C.

Lignins. V. R. O. Herzog and Armin Hillmer, Papier-Fabr. 30. No. 13: 205-210 (March 27, 1932). —From the comparison of the ultra violet absorption spectrum of aromatic substances, four rules are deducted which are made into curves. Data is given over the molecular weight of lignin preparations.—J. F. O.

The precipitation and colloidal titration of lignin sulphonic acid with fuchsin. Hennig. Papier-Fabr. 30,

No. 13:197-188 (March 27, 1932).—Fuchsin forms a very insoluble condensation product with lignin sulphonic acid, and with beta naphthylamine it precipitates non-separable lignin sulphonic acid. A dark red, difficultly soluble and a bright red, easily soluble fuchsin precipitates are discernible. The most difficultly soluble lignin sulphonic acid can be determined to a relative degree by collodial titration.—J. F. O.

Lignin reactions. Peter Klason. Arkiv Kemi, Mineral. Geol. 11, No. 1, 1932, 12 p.—The lignin in spruce is also in all pines and cycadeans. From other di- and monocotyledons the naphthylammonium salt of alpha-lignosulphonic acid has been prepared. If protocatechuic acid is taken as a type of pinewood lignin, gallic acid and other tricarboxylic acids are the types of lignin in other plants. In these plants the lignin has a certain relationship to the various tannic acids; this is not the case with pine wood.—C. J. W.

Recent investigations of the chemistry of lignin and humic substances. N. A. Orlov. J. Applied Chem. (U. S. S. R.) 4: 1113-1134 (1931).—A review.—C. J. W.

Progress in the manufacture and control of groundwood. A. T. Gardner. Paper Trade J. 94, No. 23:63-64 (June 9, 1932).—A brief outline of the development of manufacturing control tests in groundwood manufacture. —A. P.-C.

Temperature and pressure control in pulping wood. C. D. DeMers. Paper Trade J. 94, No. 23: 49-50 (June 9, 1932).—A brief discussion of the necessity and advantages of temperature control in wood grinding and of temperature and pressure control in sulphite cooking, showing the merits of grinding-temperature control system and sulphite temperature and pressure control system of the Taylor Instrument Cies.—A. P.-C.

Changing widths of grinder pocket. A. E. Parrett. Pulp Paper Can. 33:135 (May, 1932).—A brief outline of present practise as regards width of grinder pockets, and of the author's experience of its effects on production, power consumption and quality of pulp.—A. P.-C.

Aloxite brand pulpwheel. A. L. Ball. Paper Trade J. 94, No. 23: 61-63 (June 9, 1932).—A discussion of the requirements of a modern pulp stone, with a description of the Aloxite stone developed by the Carborandum Co. and a discussion of its merits.—A. P.-C.

Importance of control in the groundwood mill. Ray J. Schadt. Paper Trade J. 95, No. 3: 32-33 (July 21, 1932).—A brief review of the more important tests at present used for the control of groundwood manufacture. —A. P.-C.

Treatment of wood to be ground. William Brydges and Spottswood C. Foster assignors to Bedford Pulp and Paper Co. U. S. pat. 1,846,944 (Feb. 23, 1932).—Blocks or bolts of wood are subjected to the action of an alkaline solution such as sodium carbonate or lime in a closed vessel, with cooking to remove oils and acids from the wood, and the wood is also subjected to the action of a vacuum, preparatory to grinding, to facilitate mechanical separation of the fibers.—A. P.-C.

Wallboard material from bagasse. Wm. L. S. Williams assignor to Hawaiian Cane Products, Ltd. U. S. pat. 1,847,050 (Feb. 23, 1932).—Bagasse is screened to remove pith particles, cooked with 4 to 6 per cent of lime under superatmospheric pressure for a time sufficient partially to dissolve incrusting material and pith remainin on the fibers, and pith is stripped from the fibers during the cooking by mechanical abrasion; the cooked fibers are washed to remove dissolved pith and extracted matter and the cooked fibers are pulped and any remaining pith is simultaneously separated.—A. P.-C.

Cellulose products from cornstalk material, etc. Gustav Taube assignor in part to Israel B. Brodie, Sidney Musher and Boris M. Rubin. U. S. pat. 1,857,985 (May 10, 1932).—The free spaces and cells of the material are evacuated and soluble material is then dissolved by treatment in water for 8 to 12 hours, followed by re-evacuation and treatment with a lye solution to prepare a product which may be used for making paper.—A. P.-C.

Pulping rice straw. Peter Swan. U. S. pat. 1,859,224 (May 17, 1932).—Rice straw is cooked for about 40 min. with causticized liquor in a cooker to impregnate the straw with the liquor, and the straw is then withdrawn from the cooker and conveyed to a hopper where it is cut and shredded by the action of armed cylinders; the stock is then hydrated and passed through a rod mill where it is preferably treated with sodium carbonate, pulped and washed. An apparatus is described.—A. P.-C.

Wood pulping process. John D. Rue, Sidney D. Wells and Francis G. Rawling assignors to Arthur M. Hyde. U. S. pats. 1,859,845 to 1,859,848 (May 24, 1932). —*No. 1,859,845*—Wood is digested with a solution containing sodium sulphite and sodium carbonate. *No. 1,859,846* relates to a process for making a wood pulp product, suitable for the manufacture of corrugated board, by subjecting wood chips to a mild chemical digestion with a substantially neutral solution containing sodium sulphite and a sodium salt of a weakly ionized polybasic acid, such as sodium carbonate or bicarbonate, and continuing digestion until the wood chips are softened to a uniform degree throughout but not pulped into their ultimate fibers, and then mechanically treating the softened chips to open up and separate the fibers. *No. 1,859,847* relates to preparation of paper making pulp by impregnating material such as wood chips with a softening agent, such as sodium sulphate and sodium bicarbonate and subjecting it to heat and pressure in a closed vessel to effect softening and then further treating substantially as described in No. 1,889,846. *No. 1,859,848* relates to specific details of a process of the general character of that described in the three preceding patents.—A. P.-C.

Wood pulping process. Linn Bradley and Edward P. McKeefe assignors to Bradley-McKeefe Corp. U. S. pat. 1,860,803 (May 31, 1932).—Wood is cooked in a chemical liquor comprising as its three essential reagents caustic soda, sodium sulphide and sodium sulphite, the sodium oxide equivalent of the sulphide being greater than the sodium oxide content of either the caustic soda or sodium sulphite, and the amount of sodium present as sulphite being at least one-half but less than the amount of sodium present as sulphite being at least one-half but less than the amount of sodium present as sulphide.—A. P.-C.

Process for the Clarification of Waste Liquors Containing Fiberous Materials. Karl Sven & Nils Pedersen, Sarpsborg, Norway. Ger. pat. 537,336 (July 21, 1925). —Dissolved or dispersed protein substances are added.—J. F. O.

Electric Steam Generator. B. A. Malkin. Pulp Paper Can. 33: 67-73 (April 1932).—A brief discussion of the factors affecting steam production in electric boilers and of the advantages of electric boilers.—A. P.-C.

Modern Feed Water Regulation. Reginald Trautschold. Paper Trade J. 94, No. 9: 41-43; No. 15: 43-46 (Mar. 3, April 14, 1932).—The principle, operation and merits are discussed of the recently developed "three elements" feed water control system, which is operated jointly by the steam flow from the boiler, the feed water flow to the boiler and the water level in the drum.—A. P.-C.

Steam Power for Production of Groundwood Pulp. Guy B. Randall. Paper Mill 55, No. 12; 4-8, No. 13; 12, 14 (March 19, 26, 1932).—An exposition of the change which has taken place in the relationship of steam power to industry, particularly as regards the cheapening of steam power when it is obtained as a by-product of process steam, and indicating the further changes that the future might hold, including application of steam-generated power to the production of groundwood.—A. P.-C.

Stoker Firing Systems Predominate. Reginald Trautschold. Paper Trade J. 94, No. 11: 41-45 (March 17, 1932).—The merits of various types of mechanical stokers are shown by means of examples of their performances in a number of paper mill installations.—A. P.-C.

Integrated Industrial Power. Walter N. Polakov. Paper Trade J. 94, No. 16: 35-41 (April 21, 1932).—A general discussion of the system to be followed to ensure efficient utilization of steam and elimination of steam wastes.—A. P.-C.

Preserved Wood for Paper Mill Construction. H. E. Davis. Paper Trade J. 94, No. 17: 40-42 (April 28, 1932). —A brief discussion of the necessity of using preserved wood for paper mill roofs.—A. P.-C.

Recovery of Waste in Paper Manufacture. Appareils et Evaporateurs Kestner. Fr. pat. 714,349 (July 18, 1930). —Products contained in the residual waters from the manufacture of paper are recovered by evaporating the waters to a density lower than that in usual processes and then pulverizing them into a drying chamber where they are reduced to a powder in contact with warm gases from the combustion of part of the powder.—A. P.-C.

Continuous Measurement of pH with Quinhydrone Electrodes. II. C. C. Coons. Ind. Eng. Chem. (Analyt. Edit.) 4: 175-178 (April 15, 1932).—An improved apparatus for applying the quinhydrone electrode to continuous pH measurements is described. The error in the reading obtained should not exceed ±0.05 pH between 0 and 7.5; above 7.5 the error usually increases, becoming about ∓0.1 at 8 and about ∓0.2 at 9. The apparatus can be used for measuring the pH of white water in paper manufacture.—A. P.-C.

Institute of Paper Chemistry. Anon. Paper Mill 55, No. 8: 60, 62 (Feb. 20, 1932); Paper Ind. 13: 1440-1441 scription of the company's new 175-ton high grade bleached sulphite pulp mill at Longview, Wash.—A. P.-C.

Engineering in a Paper Mill. John Ewart. World's Paper Trade Rev. 97, 412-416, 473-476, 675-676, 714-717, 848-852, 886-889 (Feb. 5, 26, March 11, 1932).—An address outlining the part played by engineering in the design and operation of the boiler house, power plant, rag preparation and boiler rooms, breaker, bleaching, beater and paper machine rooms.—A. P.-X.

Automatic Regulation for the Density of Solutions. Zellstoff Papier 12, No. 1: 21 (January, 1932).—A contrivance for the automatic regulation of the density of solutions is described with the aid of Schematic illustration. The device is invented by O. Teufert.—J. F. O.

Preparation of Mineral-Vegetable Glue and Sizing Paper. G. Shnuiparkov. Bum. Prom. 11, No. 2:29-30 (1932); C. A. 26, 3375.—Rosin was treated in the cold with dilute water glass and the liquor used in sizing paper. —C. J. W.

Apparatus for Making Pressed Wood Fiber Products. Paul G. von Hildebrandt assignor to Howard B. Salkeld. U.S. pat. 1,845,533, (Feb. 16, 1932).—The apparatus comprises a die member provided with a pressing chamber for holding the fiber suspension and in which the pressed article is formed. The die is provided with means for preventing the suspending medium from escaping prematurely, preferably in the form of pressure-responsive valves effective only production of a predetermined pressure in the pressing operation. Means are also provided for introducing air into the chamber. A pressing platen cooperates with the die chamber for compacting its contents, and preferably it makes a fluid-tight fit with the walls of the chamber.—A. P.-C.

Method of and Means for Forming Grooved Paper Sheets. Swan Smith assignor to Orenda Corp. U. S. pat. 1,844,697, (Feb. 9, 1932).—The machine has a number of pairs of cooperating rolls which are formed with shoulders for gathering the paper from an edge thereof. Successive rolls are provided with beads in line with preceding gathering shoulders which are adapted to form the grooves in the sheet along the lines of the gathered material. The forming shoulders and beads for the various grooves are arranged on successive rolls in spaced lateral position with respect to the preceding set so as to initiate the formation of the grooves one after the other. A pair of drums having groove-forming members extending longitudinally of the rolls for forming transverse grooves in the sheet are heated to set the sheet as it leaves the machine, and the sheet is preheated before feeding to the drums.—A. P.-C.

Paper Reenforcing Machine. George E. Gibbs assignor to American Reenforced Paper Co. U. S. pat. 1,841,945, (Jan. 19, 1932).—This is an improvement on C. H. Howard's U. S. pat. 1,590,167, June 22, 1926, and provides certain features in the construction of the mechanism for doffing the transverse reinforcing fibers from the supporting combs, which permit of running the machine at considerably higher speeds.—A. P.-C.

Simple and cheaper method for insulation of cooking kettles in the paper factories of Ukrania. A. Kurlov. Bum. Prom. 11, No. 1:45-48 (1932); C. A. 26, 3375.—A uniform method of insulation of pulp boilers with layers of asbestos, straw, etc., is described and shown in figures. —C. J. W.

Historical Statistics of the German Vat and Paper Machines.. Alfred Schulte. Wochbl. Papierfabr. 63, No. 15: 282-283, (April 9, 1932).—Story of the growth of the German paper industry. There were 1500 vats and 25 machines in 1840 while in 1927 there were only 25 vats and 806 paper machines.—J. F. O.

The Activity of the Inventors in the Paper Industry. Zellstoff Papier 12, No. 2: 71-75, (Feb, 1932).—A short description of the German patents which appear in Zellstoff und Papier during 1931. They are classified as follows, wood grinders, chippers etc., decomposition methods, digesters, liquor preparation, screening of stock, bleaching, sizing and fillers, beaters and mills, and paper machines with many sub-groups.—J. F. O.

Rosin in Pulp.. W. Abele.. Wochbl. Papierfabr. 63, No. 3: 42-44, (Jan. 16, 1932).—A resume of the principle cause for rosin to appear in pulp and paper and some means of its removal.—J. F. O.

Problems of the paper industry in the endeavor for improved quality of production. A. Goncharov. Bum. Prom. 11, No. 2:26-29, (1932); C. A. 26, 3375.—A discussion is given of the national problems for improving the quality of products in line with the five year plan as it affects the paper industry.—C. J. W.

Investigation of utilization of circulating water. D Lebedev and B. Sorokin. Bum. Prom. 11, No. 1:16-30, (1932); C. A. 26, 3375.—The utilization of circulating and return water used in the production of paper is discussed. Mathematical calculations, tables and drawings are shown.—C. J. W.

United States Patents on Papermaking

Third Quarter, 1932

Compiled by Clarence J. West, Chairman, Committee on Abstracts and Bibliography, TAPPI.

NOTE—Printed copies of the patents listed below may be obtained at ten cents ($0.10) each from the Commissioner of Patents, Washington, D. C. Stamps and personal checks are not accepted. The execution of orders will be considerably accelerated if coupons are used.

July 5, 1932

1,865,455. Method of and machine for manufacturing laminated products. August J. Chattillion, St. Louis, Mo., assignor of one-half to Harry Buehler, Jr., Clayton, Miss. Filed June 19, 1930. 9 claims (Cl. 154-2).

1,865,579. Method of manufacturing composite roofing. Chester R. MacDonald, assignor to The Patent and Licensing Corporation, Boston, Mass. Filed Aug. 9, 1928. 8 claims. (Cl. 91-68).

1,865,613. Paper shake apparatus and method. Henri G. Chatain, assignor to Hammermill Paper Company, Erie, Pa. Filed Feb. 15, 1929. 23 claims. (Cl. 92-45). Impulses are applied to the upper surface of the pulp stream.

1,865,634. Building material and process of making same. Lester Kirschbraun, assignor to The Flintkote Corporation, Boston, Mass. Filed Mar. 2, 1931. 7 claims. (Cl. 91-70). Bituminous-coated product.

1,865,649. Method and apparatus for manufacturing products from fibrous material. Max Skolnik, assignor to Insolo Holding Company, a corporation of Minnesota. Filed June 1, 1931. 20 claims. (Cl. 92-13). Method of treating straw.

1,865,768. Method of treating mechanical wood pulp. Per Klem, Oslo, Norway. Filed Nov. 30, 1929. 1 claim. (Cl. 92-20). A series of screening operations are used.

1,866,312. Process of making door panels of fibrous materials. Emil C. Loetscher, Dubuque, Iowa. Filed Dec. 12, 1929. 4 claims. (Cl. 154-2). The base material is covered with a sheet of fibrous material with natural wood finish.

1,866,372. Cellulose resin product and method of its preparation. Harry Clayton Rohlfs, assignor to General Electric Company, Schenectady, N. Y. Filed Feb. 9, 1928. 6 claims. (Cl. 154-2). Paper is cemented by an alkyl resin.

1,866,400. Safety paper. William N. Doushkess, assigner to Milton C. Johnson Company, New York, N. Y. Filed Mar. 6, 1928. 14 claims. (Cl. 91-67.95). Leuco indamine is used as ink.

1,866,513. Reenforced paper. Joseph W. Ballard, assignor to Griswoldville Manufacturing Company, Griswoldville, Mass. Filed Oct. 19, 1930. 16 claims. (Cl. 92-40).

July 12, 1932

1,866,607. Slice and head box for paper making machines. Ralph Wood, assignor to Scott Paper Company, Chester, Pa. Filed Sept. 6, 1929. 4 claims. (Cl. 92-44).

1,866,617. Filler pad. Robert W. Burrows, Petaluma, Calif. Filed Mar. 19, 1929. 3 claims. (Cl. 154-54).

1,866,689. Method and apparatus for waxing paper. Van Hamm Wilshire, assignor to The Specialty Papers Company, Dayton, Ohio. Filed June 16, 1927. 19 claims. (Cl. 91-70).

1,866,690. Paper shredding and crimping machine. Harry W. Wilson, San Francisco, Calif. Filed May 18, 1931. 6 claims. (Cl. 93-1).

1,866,807. Method of and apparatus for making four-ply stock on three-roll calenders. Howard O. Hutchins and Arnold R. Krause, assignors to Gillette Rubber Co., Eau Claire, Wis. Filed June 20, 1929. 7 claims. (Cl. 154-1).

1,866,811. Paper-making apparatus. Frederick La Croix, Agawam, Mass. Filed Nov. 28, 1930. 2 claims. (Cl. 92-48). Watermarking device.

1,866,856. Panel board. John W. Ledeboer, assignor to Ambler Asbestos Shingle and Sheathing Company, Ambler, Pa. Filed Jan. 22, 1930. 3 claims. (Cl. 91-68).

1,866,917. Manufacture of cellulose material from hemp fibers. Edward Chauncey Worden, 1st, assignor to Hanson and Orth, New York, N. Y. Filed Mar. 16, 1929. 6 claims. (Cl. 92-9). Alkaline hydroxide and silicate used.

1,867,059. Slitting means. James A. Cameron, assignor to Cameron Machine Company, Brooklyn, N. Y. Filed Apr. 9, 1930. 6 claims. (Cl. 164-65).

1,867,071. Article of manufacture. William R. Collings and Donald L. Gibbs, assignors to The Dow Chemical Company, Midland, Mich. Filed Mar. 8, 1929. 6 claims. (Cl. 154-52). An elastic composite reinforced paper.

1,867,220. Means for producing lined cartons. Carl Wilhelm Hartmann, Lyngby, near Copenhagen, Denmark. Filed Apr. 25, 1931. 15 claims. (Cl. 93-36).

1,867,259. Machine for making paper boxes. Harold J. Goss, assignor to The International Paper Box Machine Company, Nashua, N. H. Filed May 30, 1930. 6 claims. (Cl. 93-42).

1,867,286. Machine for making liners for baskets and the like. Isaac Stern, assignor to S and S Corrugated Paper Machinery Co., Inc., Brooklyn, N. Y. Filed Feb. 18, 1928. 6 claims. (Cl. 93-1).

1,867,399. Method of making stencil frames. Harmon P. Elliott, Watertown, Mass. Filed June 11, 1931. 12 claims. (Cl. 93-1). Frames composed of two united paper sheets.

1,867,436. Method and apparatus for concentrating pulp water. Otto Andresen, Vinderen, near Oslo, Norway. Filed Jan. 22, 1929. 15 claims. (Cl. 92-29).

July 19, 1932

1,867,550. Method of preventing post-winding welts. James A. Cameron and Robert McC. Johnstone, assignors to Cameron Machine Company, Brooklyn, N. Y. Filed Nov. 21, 1924. 3 claims. (Cl. 164-65).

1,867,575. Process for making articles of fibrous materials. Emil C. Loetscher, Dubuque, Iowa. Filed Feb. 12, 1929. 4 claims. (Cl. 154-2).

1,867,588. Method of and apparatus for paper making. Howard Parker, assignor to Brown Company, Berlin, N. H. Filed Apr. 28, 1930. 6 claims. (Cl. 92-42). Method of sheet formation.

1,867,593. Process of chemical fiber liberation. George A. Richter, assignor to Brown Company, Berlin, N. H. Filed Apr. 12, 1929. 6 claims. (Cl. 92-11). A cyclic process.

1,867,599. Manufacture of pulp rovings. Milton O. Schur and William B. Meglitz, assignors to Brown Company, Berlin, N. H. Filed June 27, 1931. 10 claims. (Cl. 92-39).

1,867,626. Manufacture of wood pulp. Otto Kress, Appleton, Wis. Filed Apr. 2, 1927. 3 claims. (Cl. 92-13). In making kraft wood pulp, the wood is impregnated with hot liquor before cooking.

1,867,797. Insulating board. Louis E. Armstrong, assignor to Insulex Corporation, Chicago, Ill. Filed Dec. 8, 1930. 8 claims. (Cl. 154-45.9).

1,867,930. Paper manufacture. John Traquair, assignor to The Mead Corporation, Dayton, Ohio. Filed Oct. 25, 1929. 21 claims. (Cl. 92-43). Rotary forming roll.

1,867,931. Paper manufacture. John Traquair and Herbert A. Kidd, assignors to The Mead Corporation, Dayton, Ohio. Filed Sept. 2, 1930. 19 claims. (Cl. 92-43). Method of forming sheet of paper.

1,868,048. Machine for making and filling packets. Albert Day, Chapel Allerton, Leeds, and William Henry Naylor, Adel, Leeds, England. Filed Apr. 12, 1930. 7 claims. (Cl. 93-7).

1,868,115. Manufacture of paper rolls. Patrick J. Mulligan, assignor to Scott Paper Company, Chester, Pa. Filed Nov. 17, 1928. 2 claims. (Cl. 242-55).

1,868,285. Winder drive for paper machines. Daniel R. Francis, assignor to The Waterbury Tool Company, Waterbury, Conn. Filed Jan. 9, 1929. 2 claims. (Cl. 242-66).

1,868,291. Paper manufacture. James J. O'Connor, assignor to The Mead Pulp and Paper Company, Dayton, Ohio. Filed Oct. 9, 1929. 6 claims. (Cl. 92-20). Introduction of a fine-grained solid water-insoluble material into fibrous stock.

1,868,299. Apparatus and method for making pulp or the like. David B. Whistler, assignor to The Black-Clawson Company, Hamilton, Ohio. Filed May 31, 1928. 10 claims. (Cl. 92-24). Tank for hydrating stock before it enters the beater.

July 26, 1932

1,868,566. Process of manufacturing phenol-formaldehyde resin sheets and forms. George J. Crossman, assignor to Panelyte Corporation, Trenton, N. J. Filed May 28, 1931. 7 claims. (Cl. 92-21). Paper containing mica is impregnated with phenol-formaldehyde resin varnish.

1,868,569. Method of treating fibers for paper making and other uses. Logan A. Dils, assignor to Kellogg Dils, Inc., Chicago, Ill. Filed July 24, 1930. 51 claims. (Cl. 92-9). Sodium borate, hydroxide and phosphate are used.

1,868,570. Process for treating woody materials to obtain fibers therefrom. Logan A. Dils, assignor to Kellogg Dils, Inc., Chicago, Ill. Filed July 26, 1930. 10 claims. (Cl. 92-9). Fifty percent sodium hydroxide by weight in aqueous solution is used for digesting the fibers.

1,868,572. Guiding and folding attachment for paper box machines. Harry G. Hall, Atlanta, Ga. Filed Apr. 11, 1931. 17 claims. (Cl. 93-52).

1,868,617. Method of and apparatus for making paper. John D. Tompkins, Valatie, N. Y. Filed Aug. 17, 1929. 29 claims. (Cl. 92-38). Electric drying.

1,868,671. Method of and apparatus for making gypsum board. William K. Nelson, assignor to Universal Gypsum and Lime Co., Chicago, Ill. Filed June 4, 1931. 13 claims. (Cl. 83-73).

1,868,751. Prepared roofing and means for making same. Henry C. Koch, Chicago, Ill. Filed Sept. 25, 1929. 6 claims. (Cl. 91-14.5).

1,868,862. Detergent towel and method of making the same. Edward W. Washburn, Washington, D. C. Filed Feb. 1, 1928. 3 claims. (Cl. 87-23). Toweling material slightly impregnated with a soap compound.

1,868,871. Machine and process for making paper boxes or the like. Samuel Bergstein, Cincinnati, Ohio. Filed Apr. 15, 1929. 16 claims. (Cl. 93-49).

1,868,872. Paper box making machine. Samuel Bergstein, Middletown, Ohio. Filed Aug. 5, 1929. 10 claims. (Cl. 93-49).

1,869,082. Paper manufacture. John Traquair and Francis G. Rawling, assignors to The Mead Research Engineering Company, Dayton, Ohio. Filed Apr. 18, 1930. 18 claims. (Cl. 92-20). Chips are treated in a rod mill and then digested.

1,869,148. Apparatus for forming fibrous sheet material. Harry E. Holcomb, assignor to Fiberfraks, Inc., New York, N. Y. Filed May 11, 1929. 9 claims. (Cl. 92-43).

1,869,243. Pulping machine. William Groundwater Fraser, Fulham, London, England. Filed Mar. 24, 1931. 3 claims. (Cl. 92-20). Shredding machine.

1,869,270. Steam intake sleeve for sulphite pulp digesters. Einar Morterud, Oslo, Norway. Filed Oct. 20, 1931. 1 claim. (Cl. 92-7).

August 2, 1932

1,869,490. Method of producing moldable compound. John Mursch, assignor to Joseph Gatti, New York, N. Y. Filed Apr. 29, 1931. 1 claim. (Cl. 92-21). Dry fiber is boiled with cresylic acid, formaldehyde and

1,869,491. Method of producing sheeted Compounds. John Mursch, assignor to Joseph Gatti, New York, N. Y. Filed Apr. 29, 1931. 5 claims. (Cl. 92-21).

1,869,630. Coating machine. Henry A. Stone, assignor to Individual Drinking Cup Company, Inc., Easton, Pa. Filed Mar. 18, 1929. 22 claims. (Cl. 91-55).

1,869,677. Sheet forming apparatus. Harry A. Emery, assignor to The Barrett Company, New York, N. Y. Filed Dec. 20, 1929. 12 claims. (Cl. 92-43).

1,869,697. Process of making bituminous emulsions and products thereof. Lester Kirschbraun, assignor to The Flintkote Corporation, Boston, Mass. Filed Jan. 2, 1928. 3 claims. (Cl. 134-1).

1,869,789. Suction box dresser. Frank M. Williams, Watertown, N. Y. Filed July 31, 1929. 6 claims. (Cl. 144-118).

1,869,948. Separation and recovery of products produced by the alkaline fusion of cellulosic materials. Lloyd C. Swallen, assignor to Commercial Solvents Corporation, Terre Haute, Ind. Filed Nov. 24, 1928. 14 claims. (Cl. 260-119).

1,870,062. Flanged reenforced paper article and process of making same. Arlington Moore, New York, N. Y. Filed June 22, 1926. 10 claims. (Cl. 93-36).

1,870,110. Protective paper for agricultural or horticultural uses. William Augustus Hall, Marignane, France. Filed Feb. 17, 1931. 13 claims. (Cl. 47-9). Mulch paper.

August 9, 1932

1,870,215. Reenforced building paper. Herbert A. Anderson, assignor to American Reenforced Paper Company, Attleboro, Mass. Filed Nov. 26, 1930. 3 claims. (Cl. 154-52).

1,870,223. Cup and blank therefor. Cesare Barbieri, assignor to Vortex Cup Company, Chicago, Ill. Filed Dec. 9, 1929. 11 claims. (Cl. 229-1.5).

1,870,224. Apparatus for handling rolls. Earl E. Berry, assignor to Beloit Iron Works, Beloit, Wis. Filed Sept. 15, 1928. 5 claims. (Cl. 242-66).

1,870,225. Paper winding apparatus. Earl E.

llerry, assignor to Beloit Iron Works, Beloit, Wis. Filed Dec. 28, 1928. 11 claims. (Cl. 242-66).

1,870,252. Synchronous motor driven shake. Lloyd Hornbostel, assignor to Beloit Iron Works, Beloit, Wis. Filed Feb. 2, 1931. 18 claims. (Cl. 92-45).

1,870,259. Paper and process of manufacturing the same. Ralph H. McKee, Jersey City, N. J. Filed Mar. 14, 1929. 9 claims. (Cl. 92-21). Pervious and non-water-resistant paper.

1,870,267. Method and apparatus for making reenforced paper. Norman S. Stone and Robert L. Burns, assignors to Mosinee Paper Mills Company, Mosinee, Wis. Filed Apr. 15, 1929. 16 claims. (Cl. 92-40).

1,870,279. Method of making layers of distended fibrous material. Frank L. Bryant, assignor to Cellufoam Corporation, Chicago, Ill. Filed May 16, 1930. 8 claims. (Cl. 92-39).

1,870,358. Process of treating printed paper for use as paper making stock. Logan A. Dils, assignor to Kellogg-Dils, Inc., Chicago, Ill. Filed Dec. 2, 1930. 6 claims. (Cl. 92-9). Uses a mixture of sodium hydroxide, borate and phosphate and potassium carbonate.

1,870,414. Roofing strip. Harold L. Levin and Frank H. Nehrer, assignors to The Patent and Licensing Corporation, Boston, Mass. Filed May 17, 1929. 6 claims. (Cl. 108-7).

1,870,426. Coating machine for shingles. Gilbert J. Snyder, assignor to The Patent and Licensing Corporation, Boston, Mass. Filed Dec. 22, 1927. 19 claims. (Cl. 91-46).

1,870,439. Plaster board and method of making same. Charles R. Birdsey, assignor to United States Gypsum Company, Chicago, Ill. Filed Aug. 31, 1928. 8 claims. (Cl. 154-2).

1,870,452. Process for reducing the content of resins and fatty acids in cellulose produced by means of sulphite digestion. Gustaf Haglund, assignor to Patentaktiebolaget Grondal-Ramen, Stockholm, Sweden. Filed Apr. 10, 1931. 5 claims. (Cl. 92-11). Cellulose is separated from a major portion of waste liquor before the resins begin to precipitate.

1,870,461. Paper lath. Herbert E. Marks, assignor to Mary Haines Marks, Sewickley, Pa. Filed Feb. 13, 1931. 2 claims. (Cl. 72-116).

1,870,473. Process of and apparatus for continuously forming a bias corrugated strip. Charles L. Tumulty and Forrest H. Tumulty, assignors in part to Neel McCullough, George W. Pierce and Fred Mustard. Filed Jan. 6, 1930. 7 claims. (Cl. 154-33).

1,870,564. Method of treating impregnated fabrics. Harold P. Hayden, assignor to The Barber Asphalt Company, Philadelphia, Pa. Filed Nov. 10, 1928. 2 claims. (Cl. 91-70). Treatment with bitumens.

1,870,567. Artificial leather manufacture. Roger B. Hill, assignor to Brown Company, Berlin, N. H. Filed Dec. 12, 1929. 6 claims. (Cl. 91-68). Paper is impregnated with rubber and a tanning agent.

1,870,650. Chemical modification of cellulose fiber. George A. Richter, assignor to Brown Company, Berlin, N. H. Filed Sept. 6, 1930. 14 claims. (Cl. 92-13). Cellulose pulp is subjected to the action of agents at 300-400 deg. F. and then treated with an alkaline agent.

1,870,681. Paper. Carl S. Hamersley, assignor to The Hamersley Manufacturing Co., Garfield, N. J. Filed Apr. 26, 1930. 2 claims. (Cl. 154-55). Corrugated paper.

1,870,846. Frame for flat screens. Sidney B. Gorbutt, Portland, Ore. Filed May 31, 1930. 1 claim. (Cl. 92-33). Steel frame for supporting flat screens.

1,870,881. Treatment of white water produced in pulp and paper making. Alfred M. Thomsen, San Francisco, Cal. Filed Apr. 6, 1931. 12 claims. (Cl. 92-1). Addition of a soluble salt of a metal possessing an insoluble hydroxide, adding a soluble hydroxide and filtering, dissolving the precipitate and returning it to the mill circuit.

1,870,944. Production of pulp, etc. Linn Bradley and Edward P. McKeefe, assignors to Bradley-McKeefe Corporation, New York, N. Y. Filed Sept. 2, 1926. 4 claims. (Cl. 92-11).

1,870,971. Process and apparatus for preparing webs from fibrous materials. Einar Fritiof Sundström and Karl Evald Stéen, Sundsvall, Sweden. Filed July 30, 1929. 10 claims. (Cl. 92-39).

1,870,977. Production of paper or like cartons or receptacles. Cyril Joseph Wilson, assignor to Associated Ice and Dairies Limited, Manchester, England. Filed July 10, 1930. 2 claims. (Cl. 93-36).

1,871,067. Reenforced roofing. Harry C. Macan, assignor to Anaconda Sales Company, New York, N. Y. Filed Aug. 20, 1930. Filed Aug. 20, 1930. 9 claims. (Cl. 154-51).

1,871,068. Roofing material. Harry C. Macan, assignor to Anaconda Sales Company, New York, N. Y. Filed Jan. 30, 1931. 8 claims. (Cl. 154-51).

1,871,090. Building product. William M. Shakespeare, assignor to Anaconda Sales Company, New York, N. Y. Filed Jan. 18, 1930. 26 claims. (Cl. 154-51).

1,871,301. Roll for interfolding paper. Samuel J. Campbell, assignor to Hudson-Sharp Machine Company, Green Bay, Wis. Filed Mar. 26, 1931. 15 claims. (Cl. 270-39).

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1,871,448. Tool for dressing the grindstones in wood grinders. Albert Elsenhans, Essen, Germany. Filed Dec. 17, 1930. 1 claim. (Cl. 125-37).

1,871,563. Apparatus for manufacturing tile board. Richard Ericson, assignor to United States Gypsum Company, Chicago, Ill. Filed Oct. 30, 1929. 13 claims. (Cl. 154-1). Steaming chamber, pressing means and drying method.

1,871,602. Waterproofed reenforced paper. George E. Gibbs, assignor to American Reenforced Paper Company, Attleboro, Mass. Filed May 23, 1928. 2 claims. (Cl. 154-52).

1,871,647. Method for making colored crepe paper with insoluble dyes and resulting product. Gardner R. Alden, assignor to Dennison Manufacturing Company, Framingham, Mass. Filed Apr. 2, 1930. 2 claims. (Cl. 92-69). The sheet is treated with a fixing solution, creped and then treated with a dye solution.

1,871,687. Waxing of paper and wrapping of articles therein. Carl S. Hamersley, New York, N. Y. Filed Mar. 25, 1929. 7 claims. (Cl. 93-2).

1,871,702 Parchmentized crepe paper and method of making. Ernest L. Kallander and Robert F. Charles, assignors to Dennison Manufacturing Company, Framingham, Mass. Filed July 23, 1930. 16 claims. (Cl. 154-33).

1,871,706. Folded paper box. William R. Krebs, Baltimore, Md. Filed Apr. 3, 1931. 2 claims. (Cl. 206-44).

1,871,731. Plaster board manufacture. James S. Offutt, assignor to United States Gypsum Company, Chicago, Ill. Filed June 20, 1930. 5 claims. (Cl. 154-2).

1,871,769. Method of coloring crepe paper and resulting product. Gardner R. Alden, assignor to Dennison Manufacturing Company, Framingham, Mass. Filed Oct. 7, 1926. 10 claims. (Cl. 8-5). Water-insoluble dye in non-aqueous solvent is used.

1,871,827. Bag consisting of two layers of paper. Laurens van Hülst, Merseburg, Germany. Filed Aug. 21, 1930. 6 claims. (Cl. 229-55). Intermediate layer of bitumen and reinforcement of wire gauze.

1,871,842. Process of rendering paper moisture, grease and acid proof and solution therefor. Logan A. Dils, assignor to Kellogg-Dils, Inc., Chicago, Ill. Filed Dec. 2, 1930. 5 claims. (Cl. 91-68). Formula given.

1,871,843. Method of manufacturing tile board. Richard Ericson, assignor to United States Gypsum Company, Chicago, Ill. Filed Oct. 17, 1928. 7 claims. (Cl. 154-2).

1,871,998. Coating machine. Melvin O. Jennings, assignor to Beckwith Manufacturing Company, Boston, Mass. Filed Aug. 26, 1930. 9 claims. (Cl. 91-47).

1,872,207. Imprint machine. George Stanford Witham, Jr., Hudson Falls, N. Y. Filed Mar. 29, 1928. 13 claims. (Cl. 92-48). A cold dryer intermediate the first and last heated dryers and forming a platen for an imprint device.

1,872,480. Making cement-asbestos products. Ernest J. Maust, assignor to The Dorr Company, Inc., New York, N. Y. Filed July 17, 1931. 17 claims. (Cl. 92-40).

1,872,533. Process of making wood fiber insulating material. Paul G. von Hildebrant, assignor to Howard B. Salkeld, Pittsburgh, Pa. Filed Nov. 20, 1928. 5 claims. (Cl. 92-67). Process of forming porous insulating board.

1,872,603. Method of and apparatus for making strip shingles. Frederick C. Overbury, assignor to The Patent and Licensing Corporation, Boston, Mass. Filed Aug. 9, 1926. 3 claims. (Cl. 91-68).

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1,872,662. Transparent paper, method of making the same and composition for tendering the same transparent. Kurt Bratring, assignor to Julius E. Kiefer, Milwaukee, Wis. Filed June 9, 1928. 3 claims. (Cl. 91-68). Glassine paper is treated with a varnish gum.

1,872,743. Bleaching process. Hans John, assignor to Paper Patents Company, Neenah, Wis. Filed Nov. 21, 1927. 26 claims. (Cl. 8-2). Stepwise process, the last stage being alkaline.

1,872,957. Paper lath. Walter D. Jarvis, assignor to Mary Haines Marks, Sewickley, Pa. Filed May 31, 1930. 6 claims. (Cl. 72-116).

1,872,985. Reenforcing base for plastic material. George E. Land, assignor to Mary Haines Marks, Sewickley, Pa. Filed May 8, 1930. 4 claims. (Cl. 72-116). Sheet of fibrous material.

1,872,996. Process of making paper pulp. William H. Mason, assignor to Masonite Corporation, Laurel, Miss. Filed May 21, 1925. 5 claims. (Cl. 92-1). The chemically treated wood is exploded.

1,873,032. Rod mill. Harold Sibree Rexworthy, assignor to F. J. Behneman, San Francisco, Cal. Filed Apr. 1, 1930. 12 claims. (Cl. 83-9).

1,873,040. Apparatus for making sheet material. Thomas Robinson, assignor to Lancaster Asphalt, Inc., New York, N. Y. Filed Nov. 23, 1929. 12 claims. (Cl. 154-1). Combination of a series of calenders.

1,873,056. Manufacture of fibrous articles. Dillon F. Smith, Ernest J. Pieper and Clarence C. Vogt, assignors to Armstrong Cork Co., Lancaster, Pa. Filed Nov. 25, 1931. 12 claims. (Cl. 92-3). The refuse solvent-extracted Southern pine chips are disintegrated in an alkaline solution, the rosin therein acting as a sizing agent.

1,873,111. Apparatus for making paper. William H. Cannard, Green Bay, Wis. Filed Apr. 19, 1929. 15 claims. (Cl. 92-39). Movable screen and means for projecting pulp upon said screen.

1,873,199. Jordan engine. John D. Haskell, assignor to Dilts Machine Works, Inc., Fulton, N. Y. Filed Oct. 16, 1931. 3 claims. (Cl. 92-27).

1,873,209. Method of and machine for coating roofing units. Chester R. MacDonald, assignor to The Patent and Licensing Corporation, Boston, Mass. Filed Mar. 13, 1926. 16 claims. (Cl. 91-68).

1,873,213. Method of and apparatus for finishing roofing elements. Frederick C. Overbury, assignor to The Patent and Licensing Corporation, Boston, Mass. Filed Dec. 27, 1927. 6 claims. (Cl. 91-68).

1,873,279. Apparatus for manufacture of sheet material. Horatio W. Brown, assignor to Bemis Industries, Incorporated, Boston, Mass. Filed Dec. 27, 1930. 17 claims. (Cl. 154-1). Means for compacting and bonding loose material; rolls.

1,873,366. Machine for forming the ends of paper tubes. Tom Farrow, Ashton-under-Ryne, England. Filed Mar. 19, 1931. 7 claims. (Cl. 93-36).

1,783,585. Method of making toilet seats of pulp material. Harold C. Harvey, assignor to The Agasote Millboard Company, Ewing Township, N. J. Filed Jan. 17, 1931. 3 claims. (Cl. 92-54).

1,783,697. Device for removing bark from logs. John M. Council, Wananish, N. C. Filed Apr. 3, 1931. 2 claims. (Cl. 144-208).

1,873,821. Coating machine. Lynn B. Case, assignor to John Waldron Corporation, New Brunswick, N. J. Filed July 26, 1930. 4 claims. (Cl. 91-18).

1,873,839. Beater engine. Frank J. Grathwol and John E. Grathwol, Sandusky, Ohio. Filed Nov. 29, 1929. 9 claims. (Cl. 92-24).

1,873,886. Roofing. George P. Heppes, assignor to The Patent and Licensing Corporation, Boston, Mass. Filed Feb. 27, 1929. 10 claims. (Cl. 91-68).

1,873,887. Composite board. Otto A. Heppes, assignor to The Patent and Licensing Corporation, Boston, Mass. Filed Mar. 27, 1929. 3 claims. (Cl. 154-45.9). Cover board for asphaltic shingle bundles.

1,873,924. Paper pulp bleaching process. Wilhelm Hirschkind, assignor to Great Western Electro-Chemical Co., San Francisco, Calif. Filed Dec. 3, 1928. 3 claims. (Cl. 8-2). Use of an aqueous solution of a hydrosulphite (0.25 to 10 per cent of the weight of the pulp).

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1,873,949. Paper drying means. Harrison R. Williams, New York, N. Y. Filed Jan. 29, 1930. 2 claims. (Cl. 34-48). Use of a traveling belt having a water impervious and heat insulating web-engaging surface.

1,873,982. Wood grinder regulating device. Viktor Rusterholz, assignor to Aktiengesellschaft Brown Boveri et Cie, Baden, Switzerland. Filed Dec. 11, 1928. 8 claims. (Cl. 290-7).

1,874,451. Process and machine for producing wadding material. Austin E. Cofrin, Green Bay, Wis. Filed Mar. 26, 1931. 20 claims. (Cl. 92-39).

1,874,553. Dry-broke beater. Harry Liebeck, assignor to Scott Paper Company, Chester, Pa. Filed Aug. 13, 1931. 5 claims. (Cl. 92-20).

1,874,659. Insulating material for building and similar purposes. Charles A. Upson, assignor to The Upson Company, Lockport, N. Y. Filed Aug. 29, 1929. 7 claims. (Cl. 154-44).

1,874,670. Box making machine. Emery L. Walker and Arthur W. Werner, assignors to Kieckhefer Container Company, Milwaukee, Wis. Filed May 18, 1929. 28 claims. (Cl. 93-49).

1,874,671. Box stitching machine. Emery L. Walker and Arthur W. Werner, assignors to Kieckhefer Container Company, Milwaukee, Wis. Filed July 27, 1929. 7 claims. (Cl. 93-42).

1,874,674. Artificial board. Clifford A. Watson, St. Paul, Minn. Filed Feb. 27, 1928. 8 claims. (Cl. 154-45.9).

1,874,676. Machine for refining paper and pulp. Ludwig H. Wessel and Homer N. Booker, assignors to The Hermann Manufacturing Company, Lancaster, Ohio. Filed July 5, 1928. 3 claims. (Cl. 92-27).

1,874,834. Pulp screen. William R. Tidmarsh, Montreal, Quebec, Canada. Filed July 17, 1931. 9 claims. (Cl. 92-32).

1,875,018. Fibrous product and method of making the same. Max H. Kliefoth, assignor to C. F. Burgess Laboratories, Madison, Wis. Filed June 21, 1930. 15 claims. (Cl. 92-21).

1,875,045. Prepared stock reclaimed from waste materials and method of and apparatus for re-

claiming same. Nathan Leshner and William J. Moeller, assignors to The Philip Carey Manufacturing Company, Lockland, Cincinnati, Ohio. Filed Feb. 3, 1927. 10 claims. (Cl. 92-20).

1,875,054. Composite material and process of making the same. Emil C. Loetscher, Dubuque, Iowa. Filed Apr. 17, 1929. 2 claims. (Cl. 91-70).

1,875,074. Acoustical board. William H. Mason, assignor to Masonite Corporation, Laurel, Miss. Filed Aug. 5, 1927. 13 claims. (Cl. 20-4).

1,875,075. Liquid separation. William H. Mason, assignor to Masonite Corporation, Laurel, Miss. Filed Jan. 25, 1930. 18 claims. (Cl. 92-39). Method of felting fiber.

1,875,208. Paper manufacture. William Edison Bair, Jr., assignor to The Mead Corporation, Dayton, Ohio. Filed Mar. 9, 1931. 15 claims. (Cl. 92-40). Addition of additional paper forming material to the wire side of the forming web, while the web is still on the forming wire.

1,875,287. Process for the production of semi-coke briquettes from bituminous coal. Ludwig Weber, Berlin-Wilmersdorf, Germany. Filed Oct. 13, 1927. 6 claims. (Cl. 202-34). Use of waste sulphite liquor.

1,875,297. Heat insulating material. William R. Gillies, assignor to Union Asbestos and Rubber Company, Chicago, Ill. Filed Nov. 19, 1928. 12 claims. (Cl. 154-44).

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1,875,364. Heat and sound insulating board and block. Louis E. Armstrong, assignor to Insulex Corporation, Chicago, Ill. Filed Oct. 9, 1930. 7 claims. (Cl. 154-45.9).

1,875,526. Paper-making apparatus. Walter G. Trotman, West Springfield, Mass. Filed Jan. 14, 1932. 5 claims. (Cl. 92-48). Supports for dandy roll.

1,875,735. Floor covering and method of making the same. Ralph G. Jackson, Woodbury, N. J. Filed July 13, 1929. 11 claims. (Cl. 154-2).

1,876,064. Apparatus for dewatering and washing pulp. Richard T. Lang, assignor to American Voith Contact Co., Inc., New York, N. Y. Filed May 8, 1926. 9 claims. (Cl. 100-48).

1,876,074. Paper creasing and cutting apparatus. John J. Redmond, Toronto, Ontario, Canada. Filed Oct. 5, 1931. 6 claims. (Cl. 93-1).

1,876,094. Manufacture of tubes of paper or like materials. Elmer Zebley Taylor, Newark, N. J. Filed Mar. 27, 1929. 2 claims. (Cl. 93-81).

1,876,221. Process for making fibrous insulating products. Friedrich Grunder, Munchenstein, near Basel, Switzerland. Filed Nov. 9, 1929. 3 claims. (Cl. 154-28).

1,876,340. Wall board. Leslie S. Odell, assignor to Building Products Limited, Montreal, Quebec, Canada. Filed Apr. 15, 1929. 1 claim. (Cl. 72-124).

1,876,522. Recovery of by-products of sugar extraction. Eugenio Antonio Vazquez, assignor to Vazcane Process, Inc., a Corporation of Delaware. Filed Oct. 31, 1930. 16 claims. (Cl. 92-41). Fiber, pulp and other by-products are obtained.

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1,876,563. Paper making machine. Carl Büchner, assignor to Papyrus A. G., Mannheim-Waldhof, Germany. Filed Jan. 17, 1929. 5 claims. (Cl. 92-20). Method of checking and regulating the degree of grinding of pulp.

1,876,666. Method of blanking folding boxes. Raoul J. Gruenberg, San Francisco, Calif. Filed Sept. 10, 1929. 4 claims. (Cl. 93-58).

1,876,931. Machine for making paper cups. Vincent E. Heywood and Ralph D. Hoaglund, assignors to United States Envelope Company, Springfield, Mass. Filed Mar. 28, 1928. 65 claims. (Cl. 93-39).

1,877,030. Rotary pulp screen. Thomas O'Connor, Philadelphia, Pa. Filed Apr. 16, 1930. 13 claims. (Cl. 92-36).

1,877,209. Plaster board. Frederick M. Venzie, Philadelphia, Pa. Filed Apr. 26, 1930. 1 claim. (Cl. 72-124).

1,877,219. Production of chemical pulp. Linn Bradley, Montclair, N. J., and Edward P. McKeefe, Plattsburgh, N. Y. Filed Sept. 2, 1926. 12 claims. (Cl. 92-11). Process of recovering waste digester liquor.

1,877,270. Manufacture of a composite sheet. William R. Collings, assignor to The Dow Chemical Company, Midland, Mich. Filed June 3, 1929. 13 claims. (Cl. 154-40).

1,877,377. Process of producing felted sheets containing bitumen. Gibson Yungblut, assignor to The Richardson Company, Lockland, Ohio. Filed June 15, 1929. 15 claims. (Cl. 92-21).

1,877,456. Bag making. Irving Gurwick, assignor to Transparent Packaging and Printing Corporation, New York, N. Y. Filed May 9, 1929. 23 claims. (Cl. 93-35).

1,877,627. Apparatus for bending tubes of fiber and similar material. Daniel Benson Replogle, assignor to The Commerce Guardian Trust and Savings Bank, Toledo, Ohio. Filed July 28, 1928. 25 claims. (Cl. 144-256).

1,877,628. Method for bending tubes of paper, fiber and similar material. Daniel Benson Replogle, assignor to The Commerce Guardian Trust and Saving Bank, Toledo, Ohio. Filed Feb. 17, 1930. 4 claims. (Cl. 18-56).

1,877,629. Method for bending tubes of fiber and similar material. Daniel Benson Replogle, assignor to The Commerce Guardian Trust and Saving Bank, Toledo, Ohio. Filed Feb. 17, 1930. 4 claims. (Cl. 18-56).

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1,878,047. Method of making a cellular composition. Frederick R. Wenger, Los Angeles, Calif. Filed Mar. 23, 1929. 8 claims. (Cl. 99-21). Carbon dioxide is introduced into wet pulp and the mass dried.

1,878,086. Laminated panel and its fabrication. Herbert J. Woodall and Meredith S. Randall, assignor to Woodall Industries Incorporated, Detroit, Mich. Filed May 18, 1931. 8 claims. (Cl. 154-2).

1,878,228. Paper manufacture. Walter J. Zimmerman, assignor to Mead Paperboard Corporation, Wilmington, Del. Filed Aug. 16, 1928. 8 claims. (Cl. 92-20). Method of coordinating the disintegrating treatment of partially cooked pulp with the character of the material.

1,878,236. Paper making. Courtlandt B. Griffin, assignor to Carew Manufacturing Company, South Hadley Falls, Mass. Filed July 7, 1930. 4 claims. (Cl. 34-48). Apparatus for continuously drying a web of paper.

1,878,290. Carton and container. Alan M. Overton, assignor to The Richardson Company, Lockland, Ohio. Filed July 31, 1930. 9 claims. (Cl. 154-45.9).

1,878,300. Felted fibrous composition. Earl P. Stevenson and Harry A. Buron, assignors to The Richardson Company, Lockland, Ohio. Filed July 14, 1930. 14 claims. (Cl. 92-21). Pulp contains a heat plastic (bitumen).

1,878,452. Laminated tubular structure. Charles L. Keller, assignor to The Richardson Company, Lockland, Ohio. Filed Mar. 23, 1929. 5 claims. (Cl. 92-41). Bituminous pulp is used.

1,878,611. Plaster board. Frederick M. Venzie, Philadelphia, Pa. Filed Feb. 1, 1930. 1 claim. **(Cl. 154-45.9).**

1,878,647. Apparatus for making match books. Russell W. Smith, Union, N. J. Filed June 6, 1928. 44 claims. (Cl. 93-7).

1,878,661. Paper pulp beating machine. Burke M. Baxter, Grand Rapids, Mich. Filed Oct. 3, 1929. 3 claims. (Cl. 92-24).

1,878,672. Stencil sheets. Kenneth W. Carr, assignor to Ditto, Incorporated, Chicago, Ill. Filed Apr. 17, 1929. 10 claims. (Cl. 41-38.6).

1,878,828. Manufacture of new products comprising lignone derivatives. Charles Frederick Cross, London, England, and Alf Engelstad, Vardal, Norway. Filed Sept. 15, 1926. 13 claims. (Cl. 134-1). Oxidized lignone derivatives are used in preparing aqueous dispersions.

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1,879,031. Process of preparing vulcanized fibers. Ernest Becker, assignor to I. G. Farbenindustrie Aktiengesellschaft, Frankfort-on-the-Main, Germany. Filed May 29, 1929. 4 claims. (Cl. 8-20). A soluble sulphate is used in sulphuric acid.

1,879,143. Board machine. Charles L. Ellies, assignor to Downingtown Manufacturing Company, Downingtown, Pa. Filed Oct. 16, 1930. 10 claims. (Cl. 92-42).

1,879,296. Calendering machine. Thomas E. Kane, assignor to The Textile-Finishing Machinery Company, a Corporation of Rhode Island. Filed Nov. 7, 1930. 6 claims. (Cl. 92-75).

1,879,410. Art of inserting liners into containers. Warren A. Morris and Carroll L. Spangler, assignors to The Paper Service Company, Lockland, Ohio. Filed Aug. 28, 1931. 12 claims. (Cl. 93-1).

1,879,483. Production of improved alkaline filler. Harold Robert Rafton, assignor to Raffold Process Corporation, Andover, Mass. Filed Feb. 13, 1930. 42 claims. (Cl. 92-21). The alkaline filler is treated with a water-soluble acidic material prior to the use of said filler in making paper.

1,879,503. Method of relieving alkaline solutions, particularly waste liquors from the soda or sulphate pulp manufacture, of silica. Erik Ludvig Rinman, Djursholm, Sweden. Filed Oct. 7, 1931. 5 claims. (Cl. 92-13).

1,879,560. Paper manufacture. Charles E. Smith, assignor to Mead Paperboard Corporation, Wilmington, Del. Filed Mar. 5, 1930. 11 claims. (Cl. 92-20). Mechanical disintegrator.

1,879,624. Apparatus for making envelopes. Ray L. Lockwood, assignor to Old Colony Envelope Company, Westfield, Mass. Filed May 31, 1930. 1 claim. (Cl. 33-1).

1,879,797. Machine and process for making laminated products. George H. Ellis, assignor to The Insulite Company, Minneapolis, Minn. Filed Nov. 15, 1930. 11 claims. (Cl. 92-42).

1,879,830. Method for forming boxes and the like. John Stokes, assignor to Stokes and Smith Company, Philadelphia, Pa. Filed May 17, 1929. 17 claims. (Cl. 93-43).

1,879,962. Automatic wire screen guide for paper making machines. William J. Tremper, North Billerica, Mass. Filed July 14, 1930. 10 claims. (Cl. 74-51).

1,879,990. Envelope making machine. Burdette S. Oles, assignor to Oles Envelope Corporation, Baltimore, Md. Filed Dec. 3, 1931. 17 claims. (Cl. 93-73).

1,880,040. Pulp refining and bleaching process. George A. Richter, assignor to Brown Company, Berlin, N. H. Filed May 6, 1927. 14 claims. (Cl. 99-2). Alkaline hypochlorite bleaching treatments.

1,880,042. Acid process of fiber liberation. George A. Richter, assignor to Brown Company, Berlin, N. H. Filed Oct. 26, 1929. 5 claims. (Cl. 92-11). One per cent combined sulphur dioxide is used at first and then at a lower temperature with substantially only free sulphur dioxide.

1,880,043. Production of high grade chemical pulps. George A. Richter, assignor to Brown Company, Berlin, N. H. Filed Dec. 18, 1929. 6 claims. (Cl. 92-9). Wood is treated with sulphuric acid and then with an alkaline liquor at an elevated temperature.

1,880,044. Process of alkaline fiber liberation. George A. Richter, assignor to Brown Company, Berlin, N. H. Filed Feb. 28, 1930. 7 claims. (Cl. 92-13). Wood is treated with ten per cent caustic soda at room temperature and then with a weaker alkali at a higher temperature.

1,880,045. Paper manufacture. George A. Richter, assignor to Brown Company, Berlin, N. H. Filed May 24, 1930. 18 claims. (Cl. 92-21). Paper possessed of stability against ageing in the atmosphere and containing a stable, powdered cellulose.

1,880,046. Processing of cellulose fiber. George A. Richter, assignor to Brown Company, Berlin, N. H. Filed Sept. 6, 1930. 13 claims. (Cl. 92-9). Cellulose is digested at temperatures above 150 deg. C. in a substantially neutral aqueous liquor.

1,880,047. Pulp refining process. George A. Richter, assignor to Brown Company, Berlin, N. H. Filed Sept. 6, 1930. 4 claims. (Cl. 92-13). Wood pulp is digested in ammoniated water at elevated temperature.

1,880,048. Multistage process of pulping raw cellulosic material. George A. Richter, assignor to Brown Company, Berlin, N. H. Filed Feb. 18, 1931. 6 claims. (Cl. 92-11). Raw material is digested in substantially only water at a temperature above not less than 125 deg. C. and then with sodium sulphite.

1,880,049. Process of producing white wood pulp for high grade paper manufacture. George A. Richter, assignor to Brown Company, Berlin, N. H. Filed May 16, 1931. 6 claims. (Cl. 92-9). The pulp is treated with an oxidant, such as chlorine or hypochlorite, digested in an alkaline liquor and bleached.

1,880,050. Method of impregnating fibrous articles and material therefor. Milton O. Schur, assignor to Brown Company, Berlin, N. H. Filed Sept. 25, 1928. 21 claims. (Cl. 91-68).

1,880,051. Conditioning of cellulose fiber and the product therefor. Milton O. Schur, Royal H. Rasch and Benjamin G. Hoos, assignors to Brown Company, Berlin, N. H. Filed Dec. 14, 1928. 15 claims. (Cl. 260-146). Cellulose is treated with an organic solvent before nitrating.

1,880,052. Shredded cellulose pulp adapted for nitration and the process of making it. Milton O. Schur and Benjamin G. Hoos, assignors to Brown Company, Berlin, N. H. Filed Sept 21, 1929. 12 claims. (Cl. 260-146).

1,880,053. Manufacture of bends from straight fiber tubes. Milton O. Schur and John G. Gosselink, assignors to Brown Company, Berlin, N. H. Filed Apr. 30, 1930. 2 claims. (Cl. 18-56).

1,880,054. Nitrocellulose manufacture and cellulose therefor. Milton O. Schur and Benjamin G. Hoos, assignors to Brown Company, Berlin, N. H. Filed Apr. 20, 1931. 3 claims. (Cl. 260-146). A sheet of interfelted wood fibers of high alpha cellulose.

1,880,056. Manufacture of rovings, yarns, twines and the like. John C. Sherman, assignor to Brown Company, Berlin, N. H. Filed Feb. 6, 1930. 16 claims. (Cl. 92-39.)

1,880,057. Method of and machine for making paper. John C. Sherman, assignor to Brown Company, Berlin, N. H. Filed June 20, 1931. 10 claims. (Cl. 92-39.)

1,880,065. Coating apparatus. Edmund P. Arpin, Jr., Port Edwards, Wis. Filed Sept. 16, 1926. 5 claims. (Cl. 91-45). Apparatus for coating with paraffin and the like.

1,880,078. Apparatus for coating. William J. Eisner, assignor to Newark Paraffine and Parchment Paper Co., Newark, N. J. Filed Sept. 11, 1931. 1 claim. (Cl. 91-33).

1,880,188. Method of and apparatus for making wall board. Leo Vance Robinson and George Miller Thomson, assignors to Gypsum Lime and Alabastine, Canada, Limited, Paris, Ontario, Canada. Filed Feb. 3, 1930. 4 claims. (Cl. 154-1).

Section of the

COST DEPARTMENT

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The Trade Association*

A Form of Business Organization

By Earl Turner[1]

The trade association differs from all other forms of business organization in two major respects—control and complexity. The simplest form of business organization is the single proprietorship. Then comes the partnership, the corporation, the holding company, and finally—the trade association. The single proprietor exercises absolute control over his business; partners share control; corporations are controlled by the board of directors, and the holding company exercises a considerable measure of control over the various corporations in which it holds stock ownership.

The trade association differs from these forms of business organization due to the fact that it cannot exercise any definite control over the business units which constitute its membership. It is nevertheless by far the most complex form of business organization. Its membership may comprise the entire range of the other forms of business organization—from holding companies down to single proprietors. Furthermore, and particularly in the vertically integrated type of association, the membership may represent a wide range of activities—natural resource production, fabrication, marketing and distribution.

When the varied character of membership is taken into consideration in connection with the absence of control, there can easily be acquired a clear conception of the problems encountered in successful trade association management. Complexity plus lack of control indicates the tremendous amount and variety of detailed information which the trade association executive must have, in historical as well as in current form, in regard to members, their products, and their policies, for use as a background for his administrative work.

Origin of the Trade Association

The trade association form of organization had its birth several hundred years ago in what was known as "guilds", which were organizations of skilled craftsmen in various industries. While there were quite a number of trade associations in the United States prior to the Great War, the value of this form of organization was not generally recognized until the War Industries Board found it necessary to have every producing industry definitely organized in order that war materials of every kind and description could be produced quickly and efficiently. In recent years the United States Department of Commerce has recognized the value of this form of business organization and has done a great deal to further the progress of trade associations.

What is going to be the future of the trade association? Quite a number of organizations of this type have been abandoned during the business depression, either because they did not render a service to their respective industries that justified the cost, because a considerable number of members were actually unable to pay dues, or because the majority of the members could not see that the service rendered by the association justified the cost of operating the organization. On the other hand, there are several hundred more associations in existence today than there were in 1929, which means that an ever increasing number of industries are recognizing the value of this form of organization.

National "Plans"

The world has enjoyed booms and suffered panics, alternating periods of prosperity and depression, for at least 300 years. The old philosophy was that misery and suffering were the natural lot of humans. It has been only during comparatively recent years that people generally have begun to realize that possibly something could be done to make business depressions less severe. This has been particularly true during the past two years. Thousands of the most able minds all over the world have been giving serious attention to possible remedies. Their recommendations are all described as national plans and the organization they would establish to execute the plan is described as a national economic council. The purpose of such a council would be to confer with accredited representatives of manufacturers, of farmers, of mining companies, of railroads, of banks, of labor, of distributors, of merchants, etc., in an effort to determine the cause of such a business depression as we have been going through since the latter part of 1929, and to see what can be done to prevent a return of such conditions in the future.

It is a significant fact that the proponents of national economic planning recognize the value of the trade association form of business organization. For illustration, the first paragraph in Mr. Gerard Swope's plans reads

* The Management Review.
[1] Mgr., Automotive Electric Association

as follows: "All industrial and commercial companies (including subsidiaries) with 50 or more employees and doing an interstate business, may form a trade association which shall be under the supervision of a federal body referred to later."

The U. S. Chamber of Commerce says, in regard to its plan: "The council would co-operate closely with existing trade associations, and it should encourage such trade associations to establish strong central committees or economic councils to study in detail the problems of coordination of production and consumption, stabilization of employment, etc., within these particular industries."

On December 21, 1931, Senator La Follette introduced a bill in the Senate proposing that a national economic council be appointed by the President by and with the advice and consent of the Senate. One of the duties specified for this council is defined as follows:

> "The council shall initiate the organization of councils or trade associations within the various major branches of production, distribution and finance to consider economic questions affecting their operations. The council shall consider recommendations submitted by such councils or trade associations for the adoption of new policies and measures for putting them into effect."

Value of the Trade Association

It would be difficult to conceive of any stronger evidence of the value of the trade association form of business organization than the statements contained in these leading plans of relieving economic distress. From the standpoint of representative membership, the La Follette bill contains a statement of particular significance, namely: "The national economic council shall not recognize any given trade association unless it is truly representative of the economic interests within the particular branch of production or distribution or finance in which it is organized." That statement should be taken seriously to heart by that class of business men in any industry who refuse to assume the responsibility of membership in an association organized and conducted for their benefit, and who are satisfied to let a limited number of willing workers shoulder the expense of time and effort which are absolutely necessary, not merely to make the industry more efficient and progressive, but in some cases actually to keep it from passing out of existence entirely.

It is probably not an exaggeration to say that we have reached a condition in American business in which if any given industry is not strongly organized and intelligently directed, one of two things will happen. Either the industry will pass out of existence entirely, or the conditions in that industry will be such that it will be impossible for anyone to make a profit.

This reference to profit should not be interpreted as indicating a need for price control or price agreements. The thought in mind is that of present day inter-industry competition—that industries will rise or fall in proportion to relative ability or efficiency just as in the case of individuals.

The Predatory Price Cutter

On the assumption that an economic council of one kind or another may be established, it is interesting to speculate on the possibilities for constructive accomplishment through the cooperation between the economic council and trade associations. The case of the predatory price cutter may be considered as an illustration. Many industries will recognize the predatory price cutter as the man who starts up in business by quoting prices below his cost of production for the purpose of getting a foothold and with the expectation of increasing prices after he has become established. This is a practice with which many lines of business are afflicted. A man may be a fairly good mechanic who has saved some money and decided that he ought to go into business for himself. He may be able to borrow some at the bank, or from friends, or relatives, but his total capital is still not sufficient to start in business on a sound basis. He buys some second-hand machinery, equipment or tools, or merchandise at a sacrifice price from some outfit that has failed. He is likely to start in business in a community in which there are already too many people in the same kind of business. He knows that he has to quote ridiculous prices to get started. Other firms feel obliged to meet these prices in order to retain business, so that the general price level becomes entirely demoralized. Wages have to be reduced in order that competing firms may not lose too much money. A certain number of employees are discharged in order to keep down the overhead, with the result that the general buying power of the community is reduced and eventually the prosperity of every inhabitant is affected.

So the newcomer finds that all he has accomplished is a reduction of the general price level. He is obliged to continue quoting prices below his cost and eventually fails.

Then he gets a job somewhere else, works for a while, then starts this process again. While he may be a good mechanic or a good salesman, he certainly has not the qualifications for managing a business. This practice greatly contributed to the alarming increase in bankruptcies even prior to 1930.

Is there any real reason why such unqualified individuals should be permitted to wreck the business in which they are engaged? Would it not be better if there were some Board or agency established in each industry or in each community, before which a man who has once failed in business would be required to appear and prove his qualifications for re-entering business on his own account?

It is in connection with such a condition that banks and trade associations, whether national or local, could cooperate in a most constructive fashion. It is quite probable that, if a national economic council should be established, scores of industries will outline to the council the troubles caused by the misfit and the unqualified, and request that the council take steps to introduce legislation which will enable representatives of honest industries, in cooperation with banks, to say whether or not the man who has a record of failure in business management should again be permitted to set up in business on his own account.

Why Have An Association?

Why should any industry be strongly organized? For the very obvious purpose of protection against new competition. There is a tremendous amount of idle capital in the country, as well as a tremendous number of idle men. Some of the idle men have some of the idle money, and they are naturally looking for an opportunity to enter a good business. In these days there is no use in putting money into new factories, or additional mines, or additional farms, as we now have too many of all three. The only possible way by which an established industry can protect itself against new competition is to be so capable and efficient that new men and new money will look carefully before investing.

Savings realized through highly efficient operation over and above a reasonable standard of profit, should be passed on to customers in the form of lower prices. This should be done not only in justice to customers, but because in times like the present and in times such as we are likely to have during the next few years, no industry can afford to be known as unusually profitable, because that condi-

tion attracts idle men and idle capital, to which reference has just been made. I shall cite an illustration. A few years ago one of the building supply industries maintained one of the most powerful trade associations in the entire history of business. They did a tremendous amount of higherly effective cooperative advertising on behalf of their product. The character of construction of practically all kinds was profoundly influenced in the direction of using this particular material. The result was that millions of new capital flowed into this industry, hundreds of new factories started, all with the expectation of getting a share of easy profits. This naturally broke the price structure in the industry, with the result that during the past two years it is probable that no manufacturer and no dealer has made a dollar of profit on the millions of dollars worth of this material that has been sold.

Mental Cobwebs

There is a certain class of individuals who seem to consider their membership in a trade association as a form of protection against new entrants in the industry. Such mental cobwebs should be vigorously brushed away. New entrants with new ideas and new equipment are likely to be more efficient than many of the old timers, because the newcomer realizes that it is necessary for him to exert every ounce of energy in order to establish himself.

It is not the function of a trade association to defend present members in the observance of high-cost, timeworn, inefficient methods. It is the function of the association to keep all members informed of changing conditions and of new and improved methods, and to organize and set in motion every possible influence within the industry which will tend to persuade the backward units to study their costs and methods carefully and to act upon the information thus acquired.

Furthermore, the highly efficient industry is likely to be an expanding industry and under such condition present members must look forward to the admission of new capital. It is in such a situation that the trade association can be of outstanding service to such new capital by directing it to a suitable place.

The Trade Association and the Chain Store

This discussion would not be complete if we did not say something about the association form of organization in relation to the chain form of organization. It is perhaps not too much to say that if every independent in this country had kept up with the changing times and condition, if a reasonable majority of them had done the things they should have done in the way of managing and conducting their businesses more efficiently and in more up-to-date manner, we would not today have the great number of chain organizations. As stated in the beginning, the chief difference between the trade association form of organization and all other forms of business organization, is in regard to control. Every unit in a chain system is absolutely controlled from the central office. If a trade association renders valuable service to its members, those members will have the advantage of information in regard to management policies, merchandising methods, accounting, etc., that the chain headquarters provides for its various units. The chief difference is that the association is not in position to demand that its members do this, that or the other. Each member still has his personal liberty. Whether or not the individual joins the parade and does all of the things recommended, depends upon whether or not he really wants to make progress. Consequently the trade association form of organization is really a protector of the economic and personal freedom of the independent business unit.

Waldron Now Constructing Trempe Equipment

The Trempe Automatic Felt Tightener and the Trempe Wire Guide Attachment are now being constructed by the John Waldron Corporation at New Brunswick, N. J. This latest addition to the Waldron line of paper mill equipment has already been installed in prominent mills throughout the country.

The function of the Trempe Automatic Felt Tightener is automatically to adjust the tension of the drier felt to the drier surface regardless of the temperature or percentage of moisture in the felt and compensate for the longitudinal stretch of the felt, caused by age and operation. Not only is more and better paper produced, but equipment now in operation indicates that the life of felts is increased up to 30 per cent. This Trempe Automatic Felt Tightener is not only designed for drier felts, but is likewise constructed for cylinder wet felts. The automatic tension on the wet felts keeps the felts continually open thereby resulting in more evenly produced papers. The Trempe equipment permits adjustment in the stretcher roll necessary for roping of felt for washing and after the operation is completed it automatically returns to its original tension.

The Trempe Attachment for Fourdrinier wire guides materially lessens the tension against the edge of the wire thereby saving the destruction of the selvage edge of the Fourdrinier wire. This Trempe attachment can be used with any design or manufacture of wire guides replacing present pan with actuating mechanism, also eliminating the springs which become clogged with paper stock. The Trempe attachment can be supplied as an individual unit to be applied to existing or new wire guides or it can be furnished complete with standard guides.

These two modern pieces of paper mill equipment are fully described and illustrated in the newly prepared bulletin No. 109, a copy of which will be sent to any interested executive by addressing the John Waldron Corporation, New Brunswick, N. J.

Commercial Hand Made Paper Tests

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 12, 1932—Additional tests which have recently been made by the Paper Laboratory of the Bureau of Standards of commercial hand made papers gave further evidence that the permanency characteristics of this class of paper have much the same range of values as found in machine made papers.

Previous tests showed this to be true as far as stability under the heat test and strength are concerned. Thus, it was found, a very strong, stable hand made paper had excellent fiber purity, the alpha cellulose content being 97 per cent and the copper number 0.7. On the other hand the fiber of one of the weak, unstable papers contained only 79 per cent of alpha cellulose, and had a high copper number of 3.6.

Boonville Paper Box Co. Chartered

[FROM OUR REGULAR CORRESPONDENT]

BOONVILLE, N. Y., October 8, 1932—Incorporation articles were filed this week by the Boonville Paper Box Company, which will manufacture paper boxes and containers in a leased plant in this village. Among the stockholders are J. H. Jackson, R. F. Sasenberry and F. M. Buckley, each owning fifty shares of stock. The capitalization of the company is $15,000.

COST SECTION

SAFETY COUNCIL PULP AND PAPER SECTION MEETS

(Continued from page 11)

must be recognized by employees and that they must work carefully is not enough. We must provide mechanical safeguards where possible and then instruct our employees how to do the job properly and safely. This, together with supervision by a foreman who knows what proper instruction and supervision is, will prevent accidental injuries that are within our control."

W. H. Brydges Speaks

William H. Brydges, president of the American Pulp and Paper Mill Superintendents Association and superintendent of the Bedford Pulp and Paper Company, of Big Island, Va., told the Section that "the way to prevent serious accidents in an industrial plant is to study all near accidents." Talking on "Lessons Learned From Near Accidents," Mr. Brydges said:

"I have observed that the majority of the so-called 'near accidents' are not reported. This is particularly true of the type caused either wholly or in part by the negligence of the employee involved. In some cases the man may be too embarrassed to report an act of positive carelessness on his part or the incident may be quickly forgotten in the press of other duties. 'Near accidents' due to faulty equipment or defective guarding are more largely reported. I am firmly convinced of the vital importance of reporting promptly all 'near accidents'; determining the causes and taking prompt measures to remove the cause in order to prevent the possible occurrence of a serious accident.

"Some time ago, we experienced a rather unusual type of accident, resulting in a permanent partial disability. The man involved was injured while working on a pipe line near the roof of our pulp mill. He was tightening a union when he slipped from the platform, lost his balance and reaching for support his hand came in contact with the blades of a high speed ventilating fan. This injury resulted in the loss of one finger and part of another. To one viewing the scene of this accident, it would seem practically impossible for anyone to be injured by the fan, due to its inaccessibility; but upon investigating the accident, we found that another employee had experienced a narrow escape while working near the same fan and under similar circumstances. In all probability, if the first 'near accident' had been properly reported, the second real accident would never have occurred.

"In our wood cooker room, we have an overhead conveyer for the purpose of delivering wood to the cookers. This conveyor is approximately thirty feet from the floor of the building and is actuated by a push button switch located near the floor of the building. It is seldom necessary for anyone to go up on the conveyor, but one day the chain broke and one of the crew was sent up to repair the break. While this man was working on the job, another employee, not knowing of the breakdown, threw in the switch, starting the conveyor. The repair man lost his balance and was thrown over the side of the conveyor. Luckily, he managed to grasp a water pipe and avoid a nasty fall to the floor below which might has resulted in serious if not fatal injuries. The incident was reported to the foreman of the department and he promptly took measures to eliminate this hazard. A lock switch was installed and the men instructed to lock the switch and take the keys with them when working on the conveyor. Here we haye a dangerous condition that should have been discovered by the safety inspectors in the regular course of inspections. However, it did not come to light until a 'near accident' pointed out the hazard.

"The American Pulp and Paper Mill Superintendents Association and other trade associations of like nature have always taken an active interest in the safety movement. At nearly every convention papers are presented and discussed on this most important subject. We are not only interested but are vitally concerned in reducing accidents; a safe mill plainly indicates efficient management. The slogan of the Superintendents Association is 'Co-operation.' We stand ready at all times to cooperate with The National Safety Council to further the safety program in all branches of our industry."

Other Speakers

During the course of the meetings of the Paper and Pulp Section, Mr. Plzak spoke on "Are We Obtaining Our Objectives," while G. W. Phillips, safety engineer of the Champion Fibre Company, Canton, N. C., had charge of the question box.

E. E. Grant, director of personnel of the Crystal Tissue Company, Middletown, Ohio, talked on "Are We Hitting the Bull's Eye?" and H. G. Gilson, safety supervisor of the Oxford Paper Company, Rumford, Me., talked on "Lessons To Be Learned from Paper Mill Fatalities."

The "Dual Control on Guillotine Cutters," was discussed by Walter A. Gleason, safety director of the Hammermill Paper Company, while A. Scott Dowd, chairman of the Contest Committee spoke on the 1931-1932 safety contest. There was considerable discussion from the floor following the various papers.

Combustion Engineering Announces New Stoker

Combustion Engineering Corporation, 200 Madison Avenue, New York, has recently placed on the market a new underfeed stoker suitable for application to both heating and industrial boilers in the approximate range of 40 to 150 developed boiler horsepower. This stoker is of exceptionally rugged construction throughout and embodies a number of distinctive features. Its fuel-feeding mechanism is of the ram or plunger type and comprises a main ram or pusher and auxiliary pushers, all mounted on a sliding plate which moves back and forth in the bottom of the retort. The grate surface is composed of stationary bars with moving elements or tuyeres which serve to agitate the fuel bed and make for more effective air distribution. Standard equipment includes dead plates on either side of the active grate surface, but at the option of the purchaser these may be replaced by easily operated shaking dump grates of sectional type.

The drive is supplied by a constant speed motor, variation in fuel supply being secured by means of a special timing device which regulates the number of strokes of the plunger per minute in accordance with load requirements. An eight to one speed range is thus secured. The transmission is very rugged and is equipped with roller bearings. The fan is integral with the drive and is equipped with silent inlet dampers.

The control system, included as standard equipment, provides continuous adjustment of fuel feed and air supply over a wide range of load, and automatic on-and-off control during banking periods.

This stoker is identical in principle to the well-known Type E Stoker which has been on the market for nearly 30 years, and which is serving over 11,000,000 square feet of boiler heating surface in this country.

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See PAPER AND PULP MILL CATALOG
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W. H. S. Lloyd & Co., Samaria, Southampton, 3 bls.

NEWS PRINT

W. H. Bell, Markland Liverpool, N. S., 4144 rolls; Parsons & Whittemore, Inc., Bergensfjord, Oslo, 40 rolls; ———, Bergensfjord, Oslo, 426 rolls; Jay Madden Corp., Dresden, Bremen, 513 rolls; Perkins Goodwin & Co., Columbus, Bremen, 105 rolls; Perkins Goodwin & Co., Pr. Roosevelt, Hamburg, 202 rolls.

PRINTING PAPER

E. Dietzgen & Co., Samaria, Southampton, 60 cs.; E. Dietzgen & Co., Statendam, Rotterdam, 15 cs.; F. C. Strype, Statendam, Rotterdam, 6 cs.

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Borden Riley Paper Co., Dresden, Bremen, 13 cs.; Borden Riley Paper Co., Hamburg, Hamburg, 13 cs.; C. Steiner, Hamburg, Hamburg, 5 cs.

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Phoenix Shipping Co., Columbus, Bremen, 2 cs.; C. W. Sellers, Columbus, Bremen, 2 cs.

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Rohner Gehrig & Co., Columbus, Bremen, 6 cs.

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Pfalz & Bauer, Hamburg, Hamburg, 1 cs.

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C. Bruning & Co., Statendam, Rotterdam, 80 rolls.

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W. J. Byrnes, Aquitania, Southampton, 3 cs.

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Van Oppen & Co., Statendam, Rotterdam, 7 bls.

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D. F. Young, Dresden, Bremen, 8 cs.; Rohner Gehrig & Co., Olympic, Southampton, 1 cs.; Japan Paper Co., Alberta, Venice, 2 cs.; Keller Dorian Paper Co., Paris, Havre, 2 cs.; Standard Products Corp., Paris, Havre, 1 cs.; Devoe & Raynolds Co., Paris, Havre, 5 cs.; Japan Paper Co., Pr. Grant, Kobe, 14 cs.; C. L. Voorhees, Pr. Grant, Yokohama, 6 cs.; Remington Rand, Inc., Hamburg, Hamburg, 17 cs.

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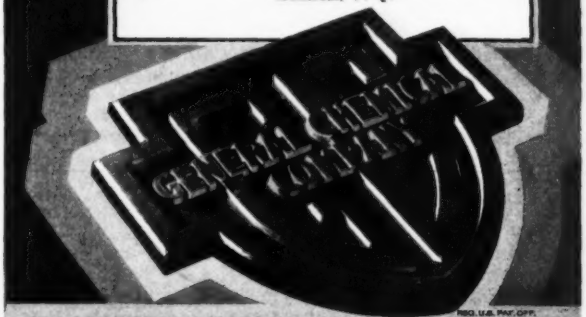

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Woolen manufacturers since 1856

RAGS, BAGGINGS, ETC.

Banco Coml Italiane Trust Co., H. Jaspar, Antwerp, 80 bls. flax waste; E. J. Keller Co. Inc., Indep. Hall, ———, 60 bls. rags; E. J. Keller Co. Inc., United States, ———, 54 bls. rags; J. Cohen Son & Co., Amer. Banker, London, 32 bls. paper stock; Bank of Montreal, A. Maersk, Kobe, 40 bls. rags; ———, Artigas, Manchester, 69 bls. rags; Banco Coml Italiane Trust Co., Alberta, Fiume, 65 bls. rags; Bank of N. Y. & Trust Co., Alberta, Trieste, 806 bls. rags; Banco Coml Italiane Trust Co., Alberta, Trieste, 20 bls. rags; E. J. Keller Co. Inc., Exeter, ———, 46 bls. rags; G. W. Millar & Co. Inc., Leviathan, Bremen, 47 bls. rags; Castle & Overton, Inc., Leviathan, Bremen, 46 bls. rags; E. J. Keller Co. Inc., Waukegan, ———, 307 bls. bagging; Draycott Paper Mills, Waukegan, Havre, 155 bls. rags; ———, Carnia, Leghorn, 6 bls. rags; National City Bank, Hamburg, Hamburg, 23 bls. rags; E. J. Keller Co. Inc., Scanmail, ———, 460 bls. rags, 170 bls. flax waste; E. J. Keller Co. Inc., Black Eagle, ——— 32 bls. bagging.

OLD ROPE

N. E. Berzen, M. de Comillas Vigo, 200 coils; E. J. Keller Co. Inc., Exeter, ———, 276 coils.

WOOD PULP

Perkins Goodwin & Co., Bergensfjord, Drammen, 375 bls. sulphite; Irving Trust Co., Bergensfjord, Drammen, 200 bls. sulphite; Gottesman & Co. Inc., Bergensfjord, Sarpsborg, 600 bls. sulphate; E. M. Sergeant & Co., Bergensfjord, Oslo, 150 bls. chemical pulp; ———, Statendam, Rotterdam, 311 bls. wood pulp; ———, Dresden, Bremen, 125 bls. wood pulp; J. Andersen & Co., Tonsbergfjord Oslo, 1834 bls. sulphite; Castle & Overton, Inc., Hamburg, Hamburg, 980 bls. wood pulp, 196 tons; Gottesman & Co. Inc., Milwaukee, Latvia, 508 bls. wood pulp.

PULP WOOD

Polarus Shipping Co., Merok, Soldiers Cove, 1440 cords.

WOOD FLOUR

———, Bergensfjord, Frederickstad, 1510 bags; Trust Co. of New Jersey, Statendam, Rotterdam, 200 bags; State Chemical Co., Statendam, Rotterdam, 1250 bags; B. L. Soberski, Tonsbergfjord, Frederickstad, 302 bags.

PHILADELPHIA IMPORTS

WEEK ENDING OCTOBER 8, 1932

E. J. Keller Co. Inc., Indep. Hall, ———, 207 bls. rags; E. J. Keller Co. Inc., City of Flint, ———, 165 bls. flax waste; J. A. Weil & Co., Indep. Hall, Bordeaux, 11 cs. printing paper; Chase National Bank, A. Maersk, Kobe, 485 bls. rags; J. A. Weil & Co., London Exchange, London, 4 cs. drawing paper; National City Bank, London Exchange, London, 140 coils old rope; ———, Alberta, Trieste, 951 bls. wood pulp; F. Weber, Alberta, Venice, 2 cs. paper.

BALTIMORE IMPORTS

WEEK ENDING OCTOBER 8, 1932

Congoleum Nairn Co., Indep. Hall, St. Nazaire, 55 bls. rags; Congoleum Nairn Co., Waukegan, Havre, 348 bls. rags.

NEWPORT NEWS IMPORTS

WEEK ENDING OCTOBER 8, 1932

Gottesman & Co. Inc., Tugela, Sweden, 2750 bls. wood pulp.

SAVANNAH IMPORTS

WEEK ENDING OCTOBER 8, 1932

E. J. Keller Co. Inc., A. Maersk, ———, 400 bls, bagging; Chase National Bank, A. Maersk, Kobe, 200 bls. bagging.

NORFOLK IMPORTS

WEEK ENDING OCTOBER 8, 1932

De Manduit Paper Corp., Indep. Hall, St. Nazaire, 200 cs. cigarette paper; Chase National Bank, A. Maersk, Kove, 400 bls. bagging; Manufacturers Trust Co., A. Maersk, Shanghai, 395 bls. bagging; ———, Coelleda, Liverpool, 63 bls. bagging; Chase National Bank, Waukegan, Havre, 260 bls. bagging; E. Butterworth & Co. Inc., Waukegan, Dunkirk, 1 bl. flax waste; ———, Waukegan, Dunkirk, 76 bls. bagging.

HOUSTON IMPORTS

WEEK ENDING OCTOBER 8, 1932

Banco Coml Italiane Trust Co., Alberta, Trieste, 56 bls. bagging.

NEW ORLEANS IMPORTS

WEEK ENDING OCTOBER 8, 1932

Gottesman & Co. Inc., Tugela, Sweden, 300 bls. wood pulp.

BOSTON IMPORTS

WEEK ENDING OCTOBER 8, 1932

E. J. Keller Co. Inc., Coelleda, ———, 67 bls. bagging.

Barge Canal Improvement Proposed

FORT EDWARD, N. Y., October 1, 1932—Officials of Chamber of Commerce organizations in this section are sponsoring a movement for making improvements to the Champlain division of the Barge Canal which would permit passage of large vessels. A campaign has already been started and it is contended that the improved waterway would be a great benefit to the Union Bag and Paper Company, Finch, Pruyn & Co., and numerous other industries by allowing shipments in a more economical manner.

Construction of a ship canal as advocated by the organization would permit ocean going vessels to operate from the Province of Quebec direct to New York City and would dispense with the long trip through the Gulf of St. Lawrence and down the coast to the port of Albany. It would incidentally also bring this village into prominence as the center of the shipping industry in the state and paper mills would be enabled to make direct contact with ocean vessels here.

Albany's Pulpwood Imports

ALBANY, N. Y., October 8, 1932—The large amount of foreign pulp and pulpwood handled at the port terminal here in recent months has aroused considerable comment and agents and consumers are co-operating in an endeavor towards further development. An idea of this co-operation is reflected in a circular recently sent out by Pagel, Horton & Co., of New York City, to the trade throughout this country and abroad. The pamphlet stated that for some time vessels had been carrying Swedish pulp direct to Albany, instead of New York and Boston as heretofore, and that this was being done at no extra expense for the benefit of those paper mills which have lower freight rates from this city than any other port.

J. A. Quinlan Addresses Paper Salesmen

J. A. Quinlan, traffic manager for the St. Regis Paper Company, was the guest speaker at the regular weekly luncheon and meeting of the Eastern Division of the Salesmen's Association of the Paper Industry, held on Monday last at the Hotel Roosevelt, New York. There was an overflow attendance to greet Mr. Quinlan, who discussed the new store-door delivery plan which is scheduled to be put into effect in New York by the railroads on October 15, and answered many questions.

WOOD PULP
AGENTS

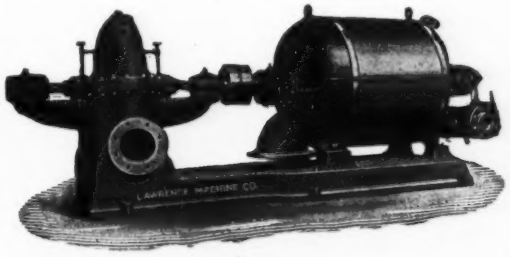
PRICE & PIERCE, Ltd.,

60 EAST 42nd ST.
NEW YORK

Horizontally Split Casing Double Suction Pumps

LAWRENCE PUMPS

The name protects and guarantees you satisfaction.
We are the original designers and builders of the LAWRENCE PUMP.



Lawrence pumps for all conditions and services. Forty-four years of practical experience with centrifugal pump development places us among the leaders. Our efforts have been rewarded by the acceptance of our product in general.

Thousands of installations and the successful performance of our pumps should be sufficient proof of our ability to handle your pumping problems. Our engineering force is at your command.

Have only Lawrence Pumps, manufactured by the

Lawrence Machine & Pump Company
361 Market St. Lawrence, Mass.

TI MACHINE STEEL
SHELL BURRS

MANUFACTURED IN
STANDARD SIZES SUITED TO
THE PAPER TRADE

We invite your inquiries

OTHER SPECIALTIES

WARREN IMPROVED CALENDER With flexible blades, Universal Adjustment and Control, Patented — DOCTORS

WARREN IMPROVED DOUBLE DRUM— WINDER

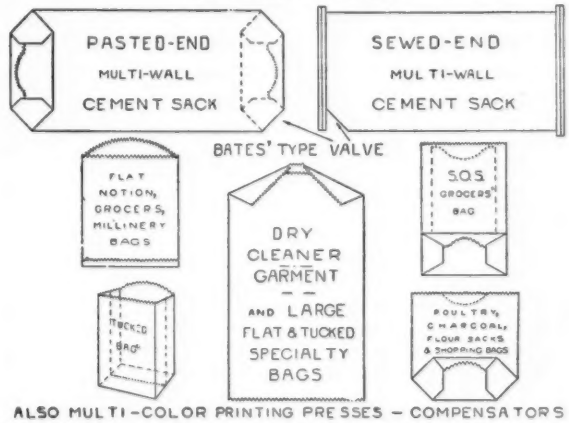
BALL HYDRANT for Stock Circulating Systems — VALVES

TI MACHINE Semi-Steel Sectional 3-4-5-6-7 Cuts per Inch — BURRS

AND OTHER PAPER MILL MACHINERY

MANUFACTURED BY
TICONDEROGA MACHINE WORKS
TICONDEROGA, N. Y.
SEND FOR BULLETINS—ASK FOR PRICES.

POTDEVIN
OVER 60 MODELS OF PAPER BAG
MACHINERY
FOR PLAIN OR PRINTED



ALSO MULTI-COLOR PRINTING PRESSES – COMPENSATORS – BOTTOMERS – GLUING – PASTING – PAPER WAXING MACHINERY, ETC.

POTDEVIN MACHINE CO.
1223 38TH STREET BROOKLYN, N.Y. U.S.A.

LATEST MARKET REVIEW

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, October 12, 1932.

Demand for the various standard grades of paper was fairly persistent during the past week. Sales forces of the leading paper organizations are looking for general improvement in the situation during the closing months of the year. While no radical price changes have been reported, quotations are steadier.

The news print paper market continues to show signs of improvement. Production in the United States and Canada is being maintained in sufficient volume to take care of current requirements. Shipments are going forward to the publishers in fairly heavy volume. The price situation is unchanged.

Trading in the paper board market is becoming more active. The recent advanced prices are holding up well. The fine paper market is exhibiting a stronger undertone. Tissues are moving in good volume. Sentiment in the coarse paper market is better and kraft wrapping paper prices are firmer.

Mechanical Pulp

The ground wood pulp market is easier. Demand for both imported and domestic mechanical pulp is restricted. No. 1 imported moist mechanical pulp is now quoted at from $17 to $20 per ton, on dock, Atlantic ports. No. 1 domestic ground wood is offered at from $16 to $24, f.o.b. mill.

Chemical Pulp

Although the chemical pulp market is fairly active at present, some signs of weakness are evident and prices are slightly easier. Imported bleached sulphite is now offered at from $1.90 to $2.25, on dock, Atlantic ports. Domestic and Canadian bleached sulphite is still selling at from $1.75 to $3.75, f.o.b. pulp mill.

Old Rope and Bagging

The old rope market is listless at present. Demand for both domestic and foreign old manila rope is light. Small mixed rope is dull. Old rope prices are practically unchanged, however. The bagging market is moderately active. Scrap and gunny are moving freely, while roofing bagging is in seasonal request.

Rags

Conditions in the domestic rag market are more favorable than of late. Cotton grades are in better request, especially No. 1 white shirt cuttings. Roofing grades are arousing more interest. Domestic rag prices are firmer. the imported rag market is rather quiet.

Waste Paper

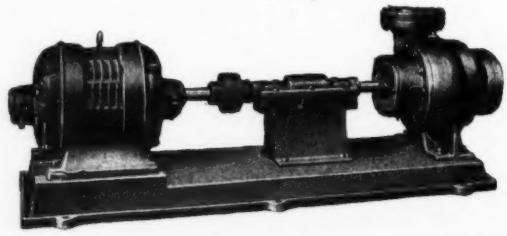
The upward trend of the paper stock market continues. Board mill demand for the lower grades is brisk, with the result that prices are firmer. The better grades of waste paper are buoyant, especially white shavings and advances have been registered in Hard White No. 1, Hard White No. 2 and Soft White No. 1.

Twine

While demand for the various grades of twine continues along routine lines there is a better feeling around than for some time past and close observers anticipate an expansion of business during the closing months of the year, at least. Prices are generally holding to previously quoted levels.

New Digester Circulator Pump

The Type SSC Digester Circulating Pump has been built by the J. C. Stine Company, of Tyrone, Pa., for the express purpose of meeting a single and very specialized



TYPE SSC—5″ x 5″ DIGESTER CIRCULATING PUMP

demand. This pump is of the Single Suction, Closed Impeller Type, thus reducing the possibility of stuffing box leakage to a minimum.

This possibility is further removed by making the stuffing box extra long with a water cooled jacket surrounding it.

The iron used in this pump is a nickel, steel, chromium cast iron alloy especially developed for this service to resist the highly corrosive liquor at the given temperatures and pressures.

Katz Bag Co. Expands

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., October 3, 1932—The Max Katz Bag Company of Indianapolis has acquired a long-term lease on the three-story brick factory building at 312-316 South New Jersey street, according to Max Katz, president. The company formerly operated directly across the street and Mr. Katz said increasing business had made larger quarters imperative. The first floor will contain offices, waiting room for customers, sales and sample rooms and loading and unloading facilities. The second floor will be utilized for storage of raw materials and finished products and the third floor will contain the factory and other production department.

The company was established in 1911 and has been in continuous business since that time. The acquisition of the new location makes it possible to combine the entire factory under one roof, where formerly the storage and warehouses were at a different location from the production department. The company also manufactures cotton and jute twines and specialties.

Sulphur

A FIRST REQUISITE

in

Paper Making

Large Production
Ample Reserves
Prompt Deliveries
Purity 99½%

TEXAS GULF SULPHUR CO.
75 E. 45th Street New York City
Mines: Gulf, Newgulf and Long Point, Texas

The B Q Inc. QUALITY PULPS

"HAFSLUND BEAR"
Bleached Sulphite

"FORSHAGA"
Bleached Sulphite

"HURUM SPECIAL"
Extra Strong Kraft

"BAMBLE"
Extra Strong Kraft

Fresh Monthly Shipments—No Closed Winter Season

The Borregaard Company
Incorporated
200 FIFTH AVENUE NEW YORK, N. Y.

1864 1932

"EXCELSIOR" FELTS

for every grade of

PULP AND PAPER

We continue to maintain at the top the quality of Excelsior Felts, as we have done since we, as pioneers, made the first endless paper machine felts manufactured in America

Seamless felts for fast running.
Satin Style felts for finish.
Special felts to meet every condition.
Send us your felt problems.

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SOLD BY
BULKLEY, DUNTON & COMPANY
75-77 Duane St., N. Y., and direct

SHIPPING INSURANCE

The Use of

ELIXMAN CORES

protects your rolls and insures their delivery to your customer in perfect condition. They eliminate claims for damages.

SHIPPING INSURANCE

Your two sources of supply are

Canadian Elixman Company
HAMILTON, ONTARIO

Elixman Paper Core Company
CORINTH, N. Y.

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, October 12, 1932.

BLANC FIXE.—Conditions in the blanc fixe market are fairly satisfactory. Prices are holding to schedule. The pulp is quoted at from $42.50 to $45.00 per ton, in bulk; while the powder is selling at from 3½ cents to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER.—The bleaching powder market is moderately active. Contract shipments are moving in fairly good volume. Prices are steady and unchanged. Bleaching powder is quoted at from $1.75 to $2.00 per 100 pounds, in drums, at works.

CASEIN.—Demand for casein is fairly persistent. Domestic standard ground is quoted at 6 cents and finely ground at 7 cents per pound. Argentine standard ground is selling at 8 cents and finely ground at 8½ cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—The position of the caustic soda market is practically unchanged. Prices are steady. Solid caustic soda is quoted at from $2.50 to $2.55; while the flake and the ground are selling at from $2.90 to $2.95 per 100 pounds, in large drums, at works.

CHINA CLAY.—Trading in the china clay market is fairly active. The contract movement is seasonal. Imported china clay is still quoted at from $10 to $15 per ton, ship side; while domestic paper making clay is selling at from $5 to $12 per ton, at mine.

CHLORINE.—The chlorine market is marking time. Shipments against contract are going forward with fair regularity. Prices are holding to schedule. Chlorine is quoted at $1.55 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—The rosin market is fairly steady. The grades of gum rosin used in the paper mills are now quoted at from $3.95 to $4.15 per 80 pounds, in barrels, at works, while wood rosin is selling at $2.80 per 80 pounds, in barrels, at southern shipping points.

SALT CAKE.—Steadiness prevails in the salt cake market. Prices are holding to schedule. Salt cake is quoted at from $15 to $16; chrome salt cake at from $12 to $13 per ton, in bulk, at works; while imported salt cake is selling at from $14 to $15 per ton, ship side.

SODA ASH.—The soda ash market is rather quiet at present. Demand from the paper mills is routine. Prices remain unchanged. Quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1.00; in bags, $1.25; and in barrels, $1.38.

STARCH.—Supplies of starch are moving into consumption in fairly heavy volume. Prices are generally well maintained. Special paper making starch is still quoted at $2.44 per 100 pounds, in bags; and at $2.71 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—Some improvement was noticed in the sulphate of alumina market. Prices remain unchanged. Commercial grades are quoted at from $1.25 to $1.40; while iron free is offered at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market continues steady. Sulphur is quoted at $18 per long ton, on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton on any smaller quantity over that period. On spot and near by car loads, the quotation is $21 per ton.

TALC.—The talc market is displaying a fairly strong undertone. Demand is moderately active. Prices remain unchanged. Domestic talc is quoted at from $16 to $18 per ton, in bulk, at mine; while imported talc is selling at from $18 to $22 per ton, in bags, ship side.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	6.50	@38.00
Bonds	4.50	@53.25
Index	6.00	@12.00
Writings—		
Extra Superfine	6.50	@15.00
Superfine	6.25	@14.75
Tub sized	4.50	@ 7.00
Engine sized	4.00	@ 5.00
Book, Cased—		
S. & S. C.	5.25	@ —
M. F.	3.75	@ 5.00
Coated and Enamel	6.25	@ 9.75
Lithograph	6.75	@11.25
Tissues—Per Ream—		
White No. 1	.50	@ .70
Anti-Tarnish M. G. only	.65	@ .70
Colored	.70	@ .90
White No. 2	.55	@ .60
Kraft	.65	@ .70
Manila	.55	@ .60
Manila—		
No. 1 Jute	9.00	@ 9.25
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.00	@ 5.25
No. 2 Wood	3.50	@ 4.00
Butchers	3.37½	@ —
Fibre Papers—		
No. 1 Fibre	4.25	@ 5.50
No. 2 Fibre	4.00	@ 4.75
Common Bogus	1.50	@ 3.00
Screenings	2.00	@ 3.00
Card Middies	4.00	@ 5.00
Glassine—		
Bleached, basis 25 lbs., No. 1	.09¾	@ —
No. 2	.11¼	@ —
Bleached, basis 20 lbs.	.11¾	@ —

(Delivered New York)

News, per ton—		
Roll, contract	45.00	@ —
Rolls, spot	45.00	@ —
Sheets	50.00	@ —
Side Runs	30.00	@35.00
Kraft—		
No. 1 Domestic	4.75	@ 6.00
No. 2 Domestic	2.75	@ 3.00
Southern	2.62½	@ 2.75
Imported	2.75	@ 3.50
Boards—per ton—		
News	30.00	@ —
Straw	32.00	@ —
Chip	27.50	@ —
Binders' Boards	62.00	@70.00
Kraft Liner	37.50	@ —
Standard 85 Test Liner	26.50	@ —
Sgl. Mla. Ll. Chip	37.50	@ —

(F. o. b. Mill)

Wood Pulp Boards	70.00	@80.00

Mechanical Pulp

(On Dock)

No. 1 Imported—		
Moist	17.00	@20.00
Dry	17.00	@20.00

(F. o. b. Mill)

No. 1 Domestic	16.00	@24.00

Chemical Pulp

(On Dock, Atlantic Ports)

Sulphite (Imported)—		
Bleached	1.90	@ 2.25
Easy Bleaching	1.60	@ 1.75
No. 1 strong unbleached	1.40	@ 1.60
Mitscherlich unbleached	1.55	@ 1.75
No. 2 strong unbleached	1.25	@ 1.35
No. 1 Kraft	1.40	@ 1.65
No. 2 Kraft	1.30	@ 1.40
Sulphate—		
Bleached	1.85	@ 2.15

(F. o. b. Pulp Mill)

Sulphite (Domestic and Canadian)—		
Bleached	1.75	@ 3.75
Easy Bleaching	1.75	@ 1.90
News	1.50	@ 1.65
Mitscherlich	2.25	@ 2.55
Kraft (Domestic)	1.50	@ 2.75

(Delivered Paper Mills)

Soda Bleached	2.25	@ —

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—		
New White ,No. 1	4.00	@ 4.25
New White, No. 2	3.00	@ 3.25
Silesias No. 1	3.75	@ 4.00
New Unbleached	5.50	@ 6.00
New Soft Blacks	2.75	@ 3.00
Blue Overall	3.00	@ 3.50
Fancy	1.50	@ 1.75
Washables	1.15	@ 1.40
Mixed Khaki Cuttings	2.50	@ 3.00
Pink Corset Cuttings	2.75	@ 3.25
O. D. Khaki Cuttings	3.00	@ 3.25
Men's Corduroy	1.00	@ 1.25
New Mixed Blacks	2.25	@ 2.50

Old Rags

White, No. 1—		
Repacked	3.00	@ 3.50
Miscellaneous	2.00	@ 2.25
White, No. 2—		
Repacked	1.75	@ 2.00
Miscellaneous	1.50	@ 1.75
Thirds and Blues—		
Repacked	1.50	@ 1.75
Miscellaneous	1.00	@ 1.25
Black Stockings	2.00	@ 2.25
Roofing Rags—		
No. 1	.53	@ .58
No. 2	.48	@ .53
No. 3	.43	@ .48
No. 4	.38	@ .43
No. 5A	.33	@ .38

Foreign Rags

New Rags

New Dark Cuttings	1.40	@ 1.50
New Mixed Cuttings	1.60	@ 1.75
New Light Silesias	3.00	@ 3.25
Light Flannelettes	2.50	@ 2.75
Unbleached Cuttings	4.75	@ 5.25
New White Cuttings	4.00	@ 4.25
New Light Oxfords	3.00	@ 3.25
New Light Prints	1.85	@ 2.25

Old Rags

No. 1 White Linens	5.25	@ 5.50
No. 2 White Linens	4.50	@ 4.75
No. 3 White Linens	3.25	@ 3.75
No. 4 White Linens	1.75	@ 2.25
No. 1 White Cotton	3.50	@ 3.75
No. 2 White Cotton	2.75	@ 3.25
No. 3 White Cotton	2.25	@ 2.50
No. 4 White Cotton	1.40	@ 1.50
Extra Light Prints	1.80	@ 2.00
Old Light Prints	1.60	@ 1.75
Med. Light Prints	1.40	@ 1.55
Dutch Blue Cottons	1.35	@ 1.40
French Blue Linens	1.80	@ 1.90
German Blue Linens	1.70	@ 1.80
German Blue Cottons	1.20	@ 1.25
Checks and Blues	1.25	@ 1.30
Lindsay Garments	.75	@ .80
Dark Cottons	.70	@ .75
Old Shopperies	.55	@ .60
New Shopperies	.60	@ .65
French Bites	1.25	@ 1.30

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—		
Foreign	1.00	@ 1.10
Domestic	1.15	@ 1.25
Wool Tares, light	.80	@ .85
Wool Tares, heavy	.80	@ .85
Bright Bagging	.75	@ .80
Small Mixed Rope	.80	@ .90
Manila Rope—		
Foreign	1.45	@ 1.50
Domestic	1.50	@ 1.75
New Burlap Cut	1.65	@ 1.75
Hessian Jute Threads—		
Foreign	2.60	@ 2.75
Domestic	2.80	@ 3.00

Old Waste Papers

(F. o. b. New York)

Shavings—		
White Envelope Cuttings	1.60	@ 1.70
Ordinary Hard White No. 1	1.50	@ 1.60
Hard White No. 2	1.30	@ 1.40
Soft White No. 1	1.35	@ 1.45
Flat Stock—		
Stitchless	.55	@ .65
Overissue Mag	.55	@ .65
Solid Flat Book	.50	@ .55
Crumpled No. 1	.35	@ .40
Solid Book Ledger	1.50	@ 1.75
Ledger Stock	.45	@ .55
New B. B. Chips	.20	@ .25
Manilas—		
New Env. Cut	1.25	@ 1.35
New Cuttings	1.00	@ 1.05
Extra No. 1 old	.80	@ .90
Print	.35	@ .40
Bogus Wrapper	.30	@ .35
Container	.25	@ .30
Old Kraft Machine—		
Compressed bales	.75	@ .85
News—		
No. 1 White News	1.05	@ 1.15
Strictly Overissue	.35	@ .40
Strictly Folded	.30	@ .35
No. 1 Mixed Paper	.15	@ .20

LOCKWOOD'S DIRECTORY

OF THE PAPER AND ALLIED TRADES

1932 EDITION

CORRECTED UP-TO-DATE

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Entire contents classified under separate headings for the United States and Canada, alphabetically and geographically arranged by states.

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1,000 PAGES
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Statement of the ownership, management, circulation, etc., required by the Act of Congress of August 24, 1912, of Paper Trade Journal published weekly at East Stroudsburg, Pa., for October 1, 1932, State of New York, County of New York, ss.: Before me, a Notary Public in and for the State and county aforesaid, personally appeared Geo. S. Macdonald, who having been duly sworn according to law, deposes and says that he is the Publisher of the Paper Trade Journal and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit: 1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, George S. Macdonald, 10 East 39th st., New York, N. Y. Editor, Henry J. Berger, 10 East 39th st., New York, N. Y. Managing Editor, Henry J. Berger, 10 East 39th st., New York, N. Y. Business Manager, George S. Macdonald, 10 East 39th st., New York, N. Y. 2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.) Lockwood Trade Journal Co. Inc., 10 East 39th st., New York, N. Y. Stockholders: George S. Macdonald, 10 East 39th st., New York, N. Y.; Arthur S. Zabriskie, 10 East 39th st., New York, N. Y. 3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None. 4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him. 5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is ..... (This information is required from daily publications only.)

Geo. S. Macdonald, Signature of Publisher,
Sworn to and subscribed before me this 30th day of September, 1932.
(Seal) MAX GROSS
Notary Public New York Co. No. 243
New York Co. Reg. No. 2-G-179
(My commission expires March 30, 1934.)

Twines
(F. o. b. Mill)

Cotton—			
B. C., 18 basis	.30	@	.32
No. 1	.20	@	.22
No. 2	.19	@	.20
No. 3	.17	@	.18
A. Italian, 18 basis	.36	@	.37
Finisned Jute—			
Dark, 18 basis	.18	@	.20
Light, 18 basis	.20	@	.22
Jute Wrapping, 3-6 Ply—			
No. 1	.15½	@	.16½
No. 2	.11¾	@	.12¾
Tube Rope—			
4-ply and larger	.09¾	@	.11¼
Fine Tube Rope—			
4-ply	.11	@	—
3-ply	.12	@	—
2-ply	.13	@	—
Paper Makers Twine			
Balls	.08¾	@	.10¾
Box Twine, 2-3 ply	.07	@	.08
Jute Rope	.09	@	.10
Amer. Hemp, 6	.27	@	.29
Java Sisal—			
No. 1 Basis	.10	@	—
No. 2 Basis	.09	@	—
New Zealand Sisal	.10	@	—
Sisal Lath Yarn—			
No. 1	.12	@	.14
No. 2	.10	@	.12
Manila Twine	.23	@	.28

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.30	@	.53¾
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.04	@	.11
Superfine Writing	.18	@	.24
No. 1 Fine Writing	.14	@	.18
No. 2 Fine Writing	.12	@	.14
No. 3 Fine Writing	.07	@	.18
No. 1 M F Book	.06½	@	.07¼
No. 2 M F Book	.05¼	@	.06¼
No. 1 S &S.C. Book	.06¼	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¾	@	.05¾
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.03¼	@	.03¾
No. 1 Kraft	3.50	@	4.50
Southern Kraft	2.62½	@	—
No. 2 Kraft	2.62½	@	—
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03½
Manila Tissue	.07	@	.07¼
White Tissue	.07¼	@	.07½

(Delivered Central Territory)

News per ton			
Rolls, contract	45.00	@	—
Sheets	50.00	@	—
Binders' Board			
Plain Chip	27.50	@	—
Solid News	30.00	@	—
Manila Lined Chip	37.50	@	—
Patent coated	47.50	@	—
Container Lined—			
85 Test	50.00	@	55.00
100 Test	55.00	@	60.00

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope cuttings	1.50	@	1.55
No. 1 Hard White	1.40	@	1.45
No. 1 Soft White	1.00	@	1.10
Ledger & Writings	.45	@	.55
Solid Books	.25	@	.30
Blanks	1.00	@	1.05
Krafts	.70	@	.80
New Kraft Cuts	1.15	@	1.25
Manila Env. Cuts	1.25	@	1.30
Ex. No 1 Manila	.90	@	1.00
Print Manila	.30	@	.35
Overissue News	.30	@	.35
Old Newspapers—			
No. 1	.25	@	.30
Mixed Papers—			
No. 1	.15	@	.20
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds	.04	@	.40
Ledgers	.06	@	.40
Writings—			
Superfine	.10	@	.18
Extra Fine	.15	@	.26
Fine	.15	@	.26
Fine, No. 2	.10	@	.25
Fine No. 3	.05½	@	.18
Book, M. F.	.04¾	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.06	@	.16
Coated Lithograph	.06	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.06	@	.09
Manila Sul., No. 1	.03	@	.05
Manila No. 2	.03	@	.04
No. 1 Kraft	.05¼	@	.06
No. 2 Kraft	.03¾	@	.04¼
Southern Kraft No. 1	—	@	.03¾
Southern Kraft No. 2	—	@	.02¾
Common Bogus	.03	@	.04

(Delivered Philadelphia)

News Print Rolls	46.00	@	—
Straw Board	32.00	@	—
News Board	30.00	@	—
Chip Board	30.00	@	—
Wood Pulp Board	70.00	@	80.00
Binder Boards—			
No 1, per ton	73.00	@	75.00
No. 2, per ton	62.00	@	65.00
Carload lots	60.00	@	65.00
Tarred Felts—			
Regular	52.25	@	54.25
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1 50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.03½	@	.04
New White, No. 2	.02½	@	.04
Light Silesias	.02½	@	.03
Silesias, No. 1	.03	@	.03½
Black Silesias, soft	.02½	@	.03
New Unbleached	.05	@	.05½
Washable, No. 1	.01	@	.01½
Blue Overall	.03	@	.03½
Cottons—According to grades—			
Washable No. 2	.01	@	.02
New Blue	.01	@	.02
Fancy	.01½	@	—
New Black Soft	.02	@	.03
New Light Seconds	.01	@	.02
New Dark Seconds	1.50	@	1.75
Khaki Cuttings—			
No. 1 O.D.	.03	@	.03½
No. 2 Mixed	.02½	@	.03
Corduroy	.02	@	.02½
New Canvas	.03½	@	.04
New Black Mixed	.02½	@	.03

Domestic Rags (Old)

White No. 1—			
Repacked	2.50	@	3.00
Miscellaneous	1.75	@	2.00
M. G.	3.00	@	3.50
Thirds and Blues—			
Miscellaneous	1.00	@	1.25
Repacked	1.50	@	1.75
Black Stockings (Export)	2.00	@	3.50
Roofing Stock—			
Foreign No. 1	.50	@	.75
Repacked	.70	@	.80

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.25	@	1.50
Domestic	1.50	@	—
Manila Rope	2.00	@	2.25
Sisal Rope	1.25	@	1.50
Mixed Rope	1.00	@	1.10
Scrap Burlaps—			
No. 1	1.25	@	1.50
No. 2	.80	@	1.00
Wool Tares, heavy	2.75	@	—
Mixed Strings	1.15	@	1.25
No. 1 New Light Burlap	2.25	@	2.50
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	1.60	@	1.70
No. 2 Hard White	1.50	@	1.60
No. 1 Soft White	1.25	@	1.30
No. 2 Soft White	1.10	@	1.15
No. 1 Mixed	.50	@	.60
No. 2 Mixed	.40	@	.50
Solid Ledger Stock	1.00	@	1.10
Writing Paper	.75	@	.80
No. 1 Books, heavy	.55	@	—
No. 2 Books, light	.40	@	—
No. 1 New Manila	1.10	@	1.15
No. 1 Old Manila	.75	@	.80
Print Manila	.45	@	.50
Container Manila	.40	@	.45
Old Kraft	.85	@	.90
Common Paper	.15	@	.20
No. 1 Mixed Paper	.20	@	.25
Straw Board, Chip	.25	@	.30
Binders Board, Chip	.25	@	.30
Corrugated Board	.35	@	.40
Overissue News	.35	@	.40
Old Newspaper	.35	@	.40

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.06	@	.12½
Rag Content	.12	@	.30
All Rag	.36	@	.52½
Bonds—			
Sulphite	.05½	@	.11½
Rag Content	.12	@	.30
All Rag	.36	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul No. 2	03¾	@	.04½
No. 1 Kraft	—	@	.04¾
No. 2 Kraft	—	@	.02¾

(F. o. b. Boston)

Southern Kraft	—	@	.02½

(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)

Common Bogus	.02	@	.02¾

(Delivered New England points)

News Print, rolls	44.50	@	—
Straw Board, rolls	.009	—	@35.00
Straw Board in Sheets, basis 35s to 70s	—	@	40.00
Filled News Board	—	@	30.00
Chip Board	27.50	@	—
Chip Board (Creasing)	27.50	@	30.00
Single Manila Lined Chip	—	@	37.50
Single White, Patent Coated News Board—			
Bender	45.00	@	55.00
Wood Pulp Board	70.00	@	75.00
Binder Boards	62.00	@	75.00

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Soft White	—	@	1.50
No. 1 Old Manila	.65	@	.75
No. 2 Mixed	.50	@	.55
No. 1 Mixed	.75	@	.85
Solid Ledger Books	1.20	@	1.40
Overissue Ledger Stock	1.15	@	1.30
Mixed Ledgers	.60	@	.70
No. 1 Books, heavy	.50	@	.60
No. 1 Books, light	—	@	.30
Crumpled Stitchless Book Stock	.50	@	.60
Manila Env. Cuttings	1.25	@	1.30
No. 1 Old Manila	.55	@	.65
White Blank News	1.00	@	1.05
Kraft No. 1	.90	@	1.00
Manila	.80	@	.90
No. 1 Mixed Papers	.12½	@	.15
Print Manila	.30	@	.40
Overissue News	.35	@	.45
Old Newspapers	.27½	@	—
Box Board, Chip	.17½	@	.20
Corrugated Boxes	.17½	@	.22½
Screening Wrappers	.25	@	.32½

Bagging
(F. o. b. Boston)

Gunny No. 1—			
Foreign	1.10	@	—
Domestic	.80	@	.90
Manila Rope—			
Foreign	1.40	@	1.50
Domestic	—	@	1.60
Transmission Rope	1.00	@	—
Mixing String	—	@	.30
Jute Rope	—	@	.75
Jute Carpet Threads	.25	@	.30
Bleachery Burlap	1.75	@	2.00
Scrap Burlap	.60	@	1.00
No. 1 Scrap Burlap	.80	@	.90
Scrap Sisal	.75	@	.85
Scrap Sisal for shredding	.90	@	1.00
Wool Tares, heavy	.65	@	.75
New Burlap Cutting	.75	@	.90
Australian Wool Pouches	—	@	1.50
Heavy Baling Bagging	.90	@	1.10
Paper Mill Bagging	.50	@	.60
Bagging No. 2	.20	@	.25
No. 1 Burlap	1.80	@	2.00

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	—	@	.01½
New White No. 1	.03¾	@	.04
New White No. 2	.02¾	@	.03¼
Silesias No. 1	—	@	.03
New Black Silesias	.02½	@	.02¾
New Unbleached	.05	@	.05¼
Fancy	—	@	.02½
Washable	—	@	.01¾
Cottons—According to grades—			
Blue Overalls	—	@	.03¾
New Black, sort	.04	@	.04½
Khaki Cuttings	.03	@	.03½
O. D. Khaki	.03½	@	.03¾
Corduroy	.02¾	@	.03
New Canvas	—	@	.05
B.V.D. Cuttings	.04	@	.04¼

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.00	@	2.25
White No. 2—			
Repacked	.02¼	@	.02½
Miscellaneous	.02	@	.02¼
Twos and Blues	.90	@	1.00
Thirds and Blues—			
Repacked	.75	@	.85
Miscellaneous	.70	@	.75
Black Stockings	2.00	@	2.25
Roofing Stock—			
No. 1	.32½	@	.37½
No. 2	.30	@	.35
No. 3	.25	@	.30

Foreign Rags
(F. o. b. Boston)

Dark Cottons	.40	@	.50
New No. 1 White Shirt Cuttings	3.75	@	4.00
Dutch Blues	1.25	@	1.50
New Checks & Blues	2.25	@	2.50
Old Fustians	—	@	.75
Old Linsey Garments	.55	@	.65

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.10¼	@	—
No. 2 Sulphite	.08½	@	—
No. 1 Colored	.10¾	@	
No. 2 Colored	.09	@	.10½
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09	@	.09½
Book—			
No. 1 M. F. (Carloads)	6.65	@	—
No. 3 M. F. (Carloads)	6.20	@	—
No. 4 M. F. (carloads)	5.25	@	—
No. 1 S. C. (carloads)	7.15	@	—
No. 3 S. C. (carloads)	6.65	@	—
No. 4 S. C. (carloads)	5.70	@	—
No. 1 Coated and Litho	12.50	@	—
No. 2 Coated and Litho	11.50	@	—
No. 3 Coated and Litho	10.00	@	11.50
Coated tinted	14.00	@	—
Wrapping—			
Rag Brown	4.40	@	—
White Wrap	2.00	@	—
"B" Manila	4.90	@	—
No. 1 Manila	5.40	@	—
Fiber	5.40	@	—
Kraft, M. F.	5.75	@	—
Kraft No. 2	5.40	@	—

(F.O.B. Cars Toronto)

News, per ton—			
Rolls (contract)	45.50	@	—
Sheets	50.50	@	—

Pulp
(F. o. b. Mill)

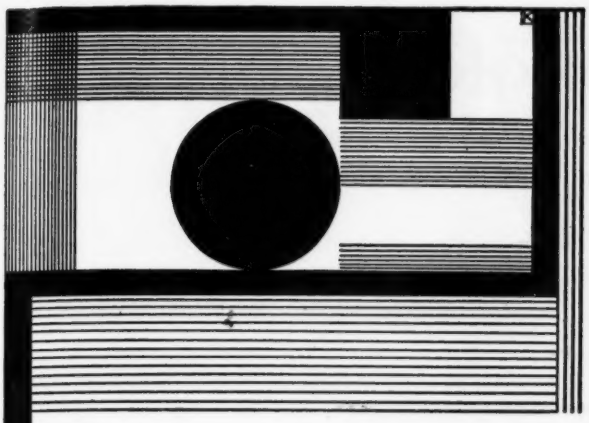
Ground Wood	18.00	@	20.00
Sulphite easy bleaching	40.00	@	—
Sulphite, news grade	38.00	@	—
Sulphite, bleached	48.00	@	58.00
Sulphate	50.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	1.80	@	—
Soft White	1.40	@	—
White Blk. News	1.25	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	.90	@	—
Light and Crumpled Book Stock	.80	@	—
Ledgers and Writings	1.00	@	—
Manilas—			
New Manila Cut	1.25	@	—
Printed Manilas	.55	@	—
Kraft	1.75	@	—
News and Scrap—			
Strictly Overissue	.50	@	—
Strictly Folded	.50	@	—
No. 1 Mixed Paper	.40	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No 1 White Shirt Cuttings	.09½	@	.10
Fancy Shirt Cuttings	.06	@	.06¾



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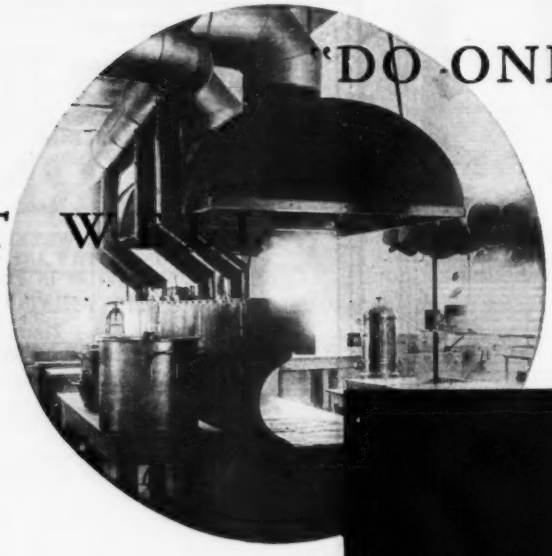
"DO ONE THING AND

DO IT W



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